

DRAFT

Plant Characterization Abstracts

**Sensitive Plant Species
USDA Forest Service, Region 1**

**Submitted by
Montana Natural Heritage Program
1515 East Sixth Avenue
Helena, Montana 59620**

**For
USDA Forest Service, Region 1
P.O. Box 7669
Missoula, Montana 59807**

Order No. 43-0343-5-0148

December, 1996

Adoxa moschatellina L.
(Musk-root)

Family: ADOXACEAE

Global rank: G5 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status: WATCH

Description: Musk-root is a small, delicate, musky-scented herb, 5-20 cm tall. The several basal leaves have long petioles and blades 2-3 times divided into threes, the ultimate segments broadly egg-shaped and lobed. Stem leaves are smaller and less dissected. Usually 5 flowers are borne in a compact head-like inflorescence at the tip of the stem. The inconspicuous, yellowish-green flowers, 5-8 mm wide are of two types: outside flowers usually have 3 sepals and 5 united petals, while the terminal flowers have 2 sepals and 4 united petals. The sepals are united to the wall of the ovary. The small dry fruit has 4-5 seeds. Flowering and fruiting from June to August.

The leaves of this unusual plant resemble those of *AQUILEGIA*, but the flowers superficially resemble those of *SAXIFRAGA*, but this monotypic family is most closely related to the Valerianaceae.

Global range: Circumboreal, extending s. in N. America to CO, IA, and NY.
Sparse.

State range: Sapphire Mtns., historically known from foothills of the
Absaroka-Beartooth Mtns. and Continental Divide near Basin.

Montana counties: Granite, Jefferson, Stillwater

Habitat: Moist, often mossy places in woods and rock crevices. Elev. 4400-5400 ft.

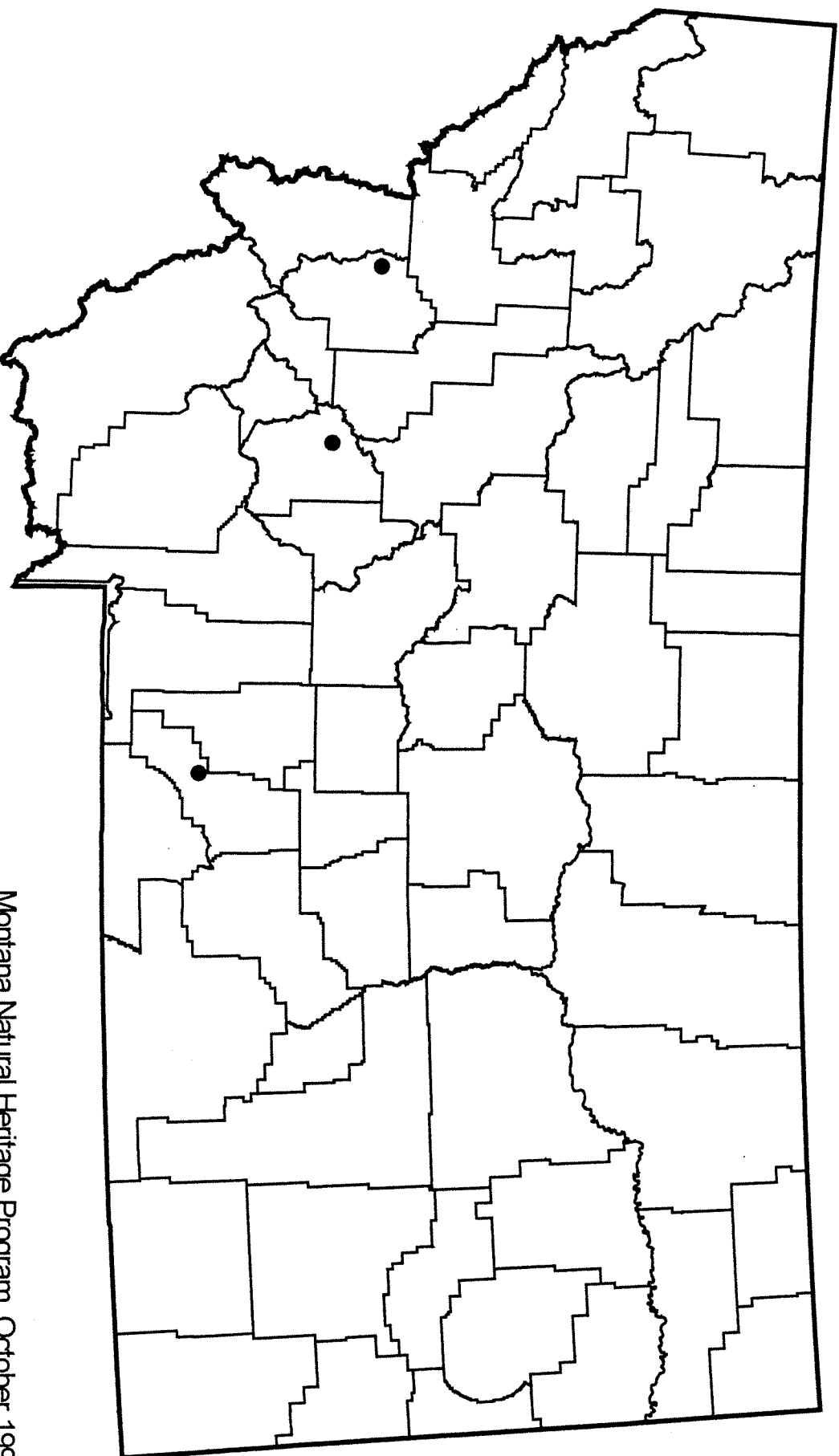
Land Ownership Summary:

BEAVERHEAD-DEERLODGE NATIONAL FORESTS, JEFFERSON RANGER DISTRICT
BLM: BUTTE DISTRICT, HEADWATERS RESOURCE AREA
LOLO NATIONAL FOREST, MISSOULA RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

---REFERENCES---

Montana Distribution
of

Adoxa moschatellina (Muskroot)



Montana Natural Heritage Program, October 1996

Agastache cusickii (Greenm.) Heller
(Cusick's Horse-mint)

Family: LAMIACEAE

Global rank: G3G4 USFS Region 1 status: PROPOSED SENSITIVE
State rank: S1 USFWS status:
 BLM status: SENSITIVE

Description: Cusick's horsemint is an herbaceous, long-lived perennial with numerous stems, woody at the base arising from a branched rootcrown surmounting a taproot. Plants are 1-2 dm (4-8in) high, but the stems often lie prostrate beneath the surface spreading from the rootcrown. Opposite leaves have blades that are 1-2 cm (ca. 0.5 in) long and triangular with a rounded base and a petiole that is up to 1 cm (0.5 in) long. Foliage is covered with fine, short hairs. White flowers are borne amongst purple-tipped bracts in a head-like inflorescence 1.5-4 cm (0.5-1.5 in) long. The tubular corolla is 8-12 mm (ca. 0.5 in) long, and the purple-tinged calyx is tubular with 5 pointed lobes. The 5 stamens are exserted from the mouth of the flower tube. Flowering in late June and early July

AGASTACHE FOENICULUM and the widespread A. URTICIFOLIA have stems higher than 4 dm (16 in) and leaves longer than 3 cm (1 in).

Global range: Central ID, n. NV and sw. MT. Var. cusickii occurs only in se OR.
Regional endemic.

State range: Tendoy Mtns.

Montana counties: Beaverhead

Habitat: Dry, open, limestone talus slopes, often with sagebrush or mountain mahogany in the montane zone. Elev. 6790-7750 ft.

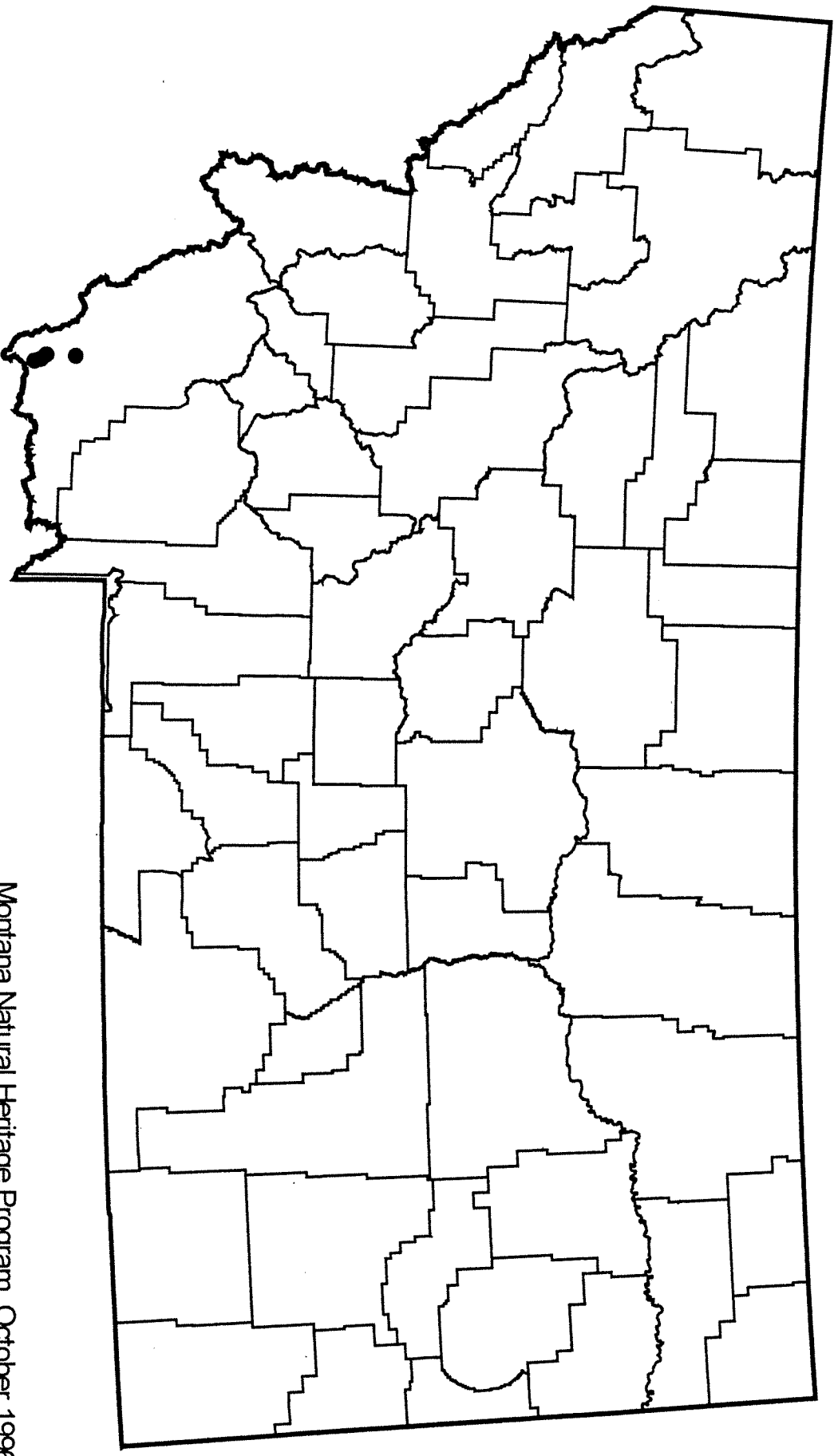
Land Ownership Summary:
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, DILLON RANGER DISTRICT
BLM: BUTTE DISTRICT, DILLON RESOURCE AREA

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- Vanderhorst, J. P. 1993. Monitoring of AGASTACHE CUSICKII in the Tendoy Mountains of southwestern Montana. Unpublished report to the Bureau of Land Management, Butte District, Dillon Resource Area. Montana Natural Heritage Program, Helena. 13 pp. plus slides.
- Vanderhorst, J. P. and P. Lesica. 1994. Sensitive plant survey in the Tendoy Mountains, Beaverhead County, Montana. Unpublished report to the Bureau of Land Management, Butte District. Montana Natural Heritage Program, Helena. 59 pp. plus appendices.

Montana Distribution
of

Agastache cusickii (Cusick's Horse-Mint)



Montana Natural Heritage Program, October 1996

Agoseris lackschewitzii D. Henderson & R. Moseley
(Pink Agoseris)

Family: ASTERACEAE

Global rank: G3 USFS Region 1 status: SENSITIVE
State rank: S2S3 USFWS status:
BLM status:

Description: Pink agoseris is a taprooted perennial with milky sap. Glabrous leaves are clustered at the base, and there are 1 to several leafless stems, 10-60 cm tall, arising from the center; leaves taper gradually to a long petiole, are narrowly lance-shaped, 5-25 cm long, and 10-25 cm wide. Flower heads resemble those of the common dandelion; they are solitary at the ends of the stems and composed entirely of deep pink to light purple ray flowers, ca. 15-20 mm long; involucre bracts are narrowly lance-shaped, 10-15 mm long, villous, with non-glandular hairs, purple-striped, mottled, and obtuse-tipped; fruits (achenes) have beaks 1/2 to 2/3 the length of their bodies. Fruits also resemble those of the dandelion; they are spindle-shaped, and the top tapers to a slender beak to which numerous, long, white bristles are attached. Flowering in July and early August, fruiting in late August

Vegetatively, this plant resembles other members of the genus AGOSERIS as well as species of MICROSERIS (NOTHOCALAIS), but it can be distinguished by its pink flowers. In fruit it can be distinguished by a combination of involucre and achene characteristics.

Global range: East-central ID, w. MT., nw WY. Regional endemic

State range: Little Belt Mtns., Absaroka-Beartooth Mtns., Anaconda Range, Beaverhead Mtns., Bridger Mtns., Castle Mtns., Crazy Mtns., Flint Creek Range, Gravelly Range, Madison Range, Sapphire Range, and Tobacco Root Mtns.

Montana counties: Beaverhead, Carbon, Cascade, Deer Lodge, Granite, Judith Basin, Madison, Meagher, Park, Silver Bow, Sweet Grass

Habitat: Subalpine wet meadows where soil is saturated throughout growing season. Elev. 5950-9500 ft.

Land Ownership Summary:

ABSAROKA-BEARTOOTH WILDERNESS
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, DEER LODGE RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, DILLON RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, JEFFERSON RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, MADISON RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, PHILIPSBURG RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, WISE RIVER RANGER DISTRICT
CUSTER NATIONAL FOREST, BEARTOOTH RANGER DISTRICT
FLYING "D" RANCH CONSERVATION EASEMENT
GALLATIN NATIONAL FOREST, BIG TIMBER RANGER DISTRICT
GALLATIN NATIONAL FOREST, BOZEMAN RANGER DISTRICT
LEE METCALF WILDERNESS, SPANISH PEAKS UNIT
LEWIS & CLARK NATIONAL FOREST, JUDITH RANGER DISTRICT
LEWIS & CLARK NATIONAL FOREST, KINGS HILL RANGER DISTRICT
LEWIS & CLARK NATIONAL FOREST, MUSSELSHELL RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
TENDERFOOT EXPERIMENTAL FOREST

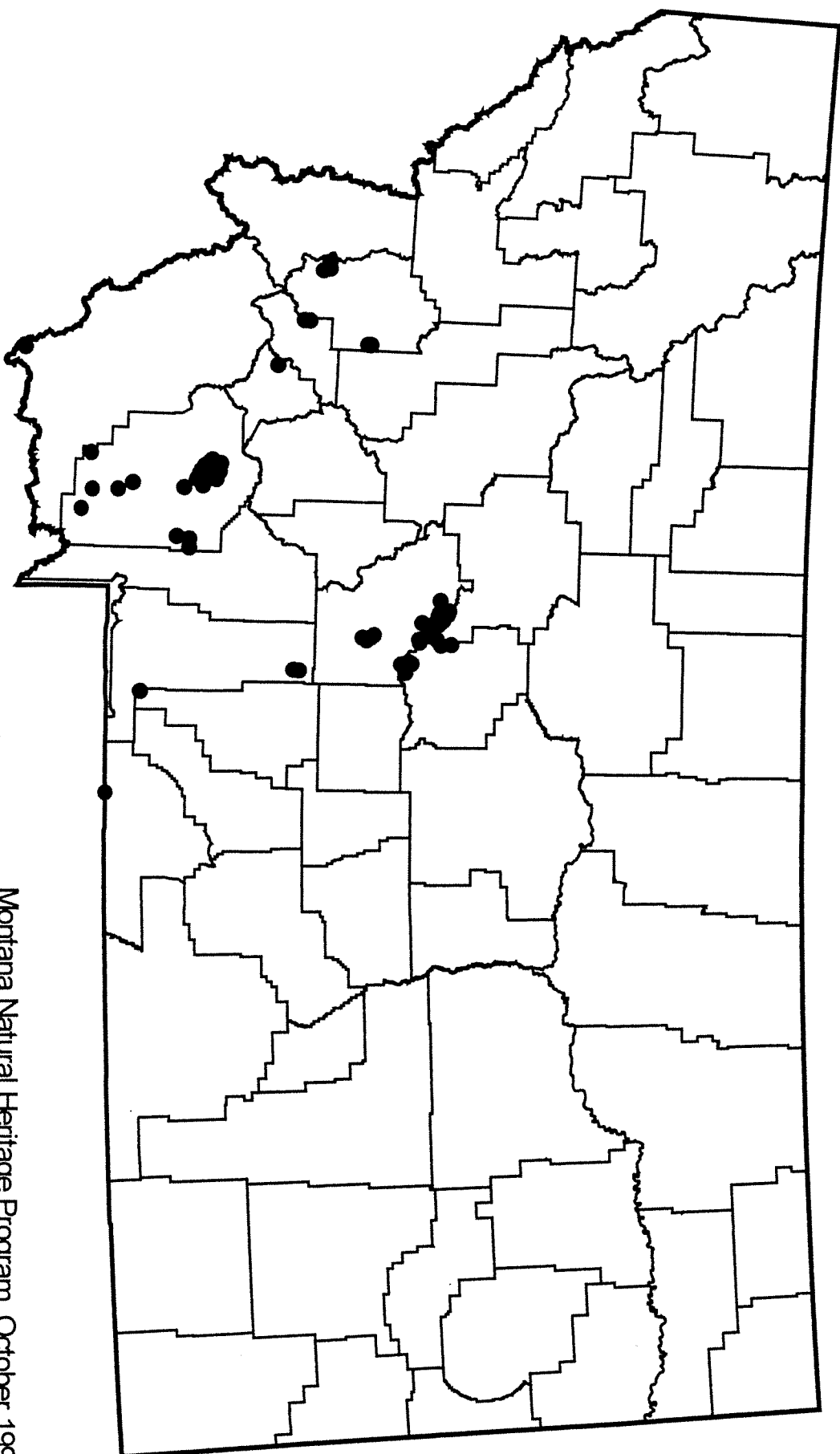
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- Layser, E. F. 1992. Onion Park Research Natural Area: botanical and ecological resources inventory, mapping and analysis. [Unpublished report to Lewis and Clark National Forest].
- Lesica, P. 1993. Vegetation and flora of the Line Creek Plateau area, Carbon County, Montana. Unpublished report to USDA Forest Service, Intermountain Research Station. Montana Natural Heritage Program, Helena. 30 pp.
- Mathews, S. 1989. Sensitive plant surveys: 1989, U.S. Forest Service, Region 1, Gallatin National Forest, Montana. Unpublished report to the USDA Forest Service, Gallatin National Forest, Bozeman, Montana. Montana Natural Heritage Program, Helena. 85 pp.
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- Pavek, D. and L. A. Schassberger. 1990. Status review of AGOSERIS LACKSCHEWITZII. Unpublished report to the Gallatin National Forest, Bozeman, Montana. 52 pp.
- Vanderhorst, J. and B. L. Heidel. 1995. Sensitive plant survey in the Tobacco Root Mountains, Madison County, Montana. Unpublished report to the Beaverhead and Deerlodge National Forests. Montana Natural Heritage Program. Helena, MT. 66 pp. plus appendices.

Montana Distribution
of

Agoseris lackschewitzii (Pink Agoseris)



Montana Natural Heritage Program, October 1996

Allium acuminatum Hook.
(Tapertip Onion)

Family: LILIACEAE

Global rank: G5 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status:

Description: Tapertip onion is a perennial herb, 1-3 dm (4-12 in) high, arising from solitary or clustered, nearly globose bulbs with brown, honeycombed coats. 2-several long leaves, u-shaped in cross-section and 1-3 mm wide, arise from near the base of the stem. Several pink to rose flowers are borne on stalks, 10-30 mm long, in a hemispherical inflorescence subtended by 2 papery, lance-shaped bracts. Each flower has 3 spreading, petal-like, outer tepals, 8-17 mm long; 3 shorter, sharp-pointed inner ones; and 6 stamens, shorter than the tepals. Flowering May to June.

ALLIUM ACUMINATUM can be distinguished from other species by the combination of rose outer tepals longer than the inner and often more than 2 concave leaves. The more common A. BREVISTYLUM also has rose tepals, but the leaves are usually more than 4 mm wide.

Global range: E. of Cascade Mtns. in WA and OR, to sw MT, s. WY, w. CO, AZ, and n. CA; also Vancouver, B.C., San Juan Islands, and w. WA west of the Cascades. Peripheral.

State range: Anaconda Range and Coeur d'Alene Mtns.; historically known from Madison Range.

Montana counties: Madison, Ravalli, Sanders

Habitat: Dry, open forests and grasslands in the montane zone. Elev. 2600-8000 ft.

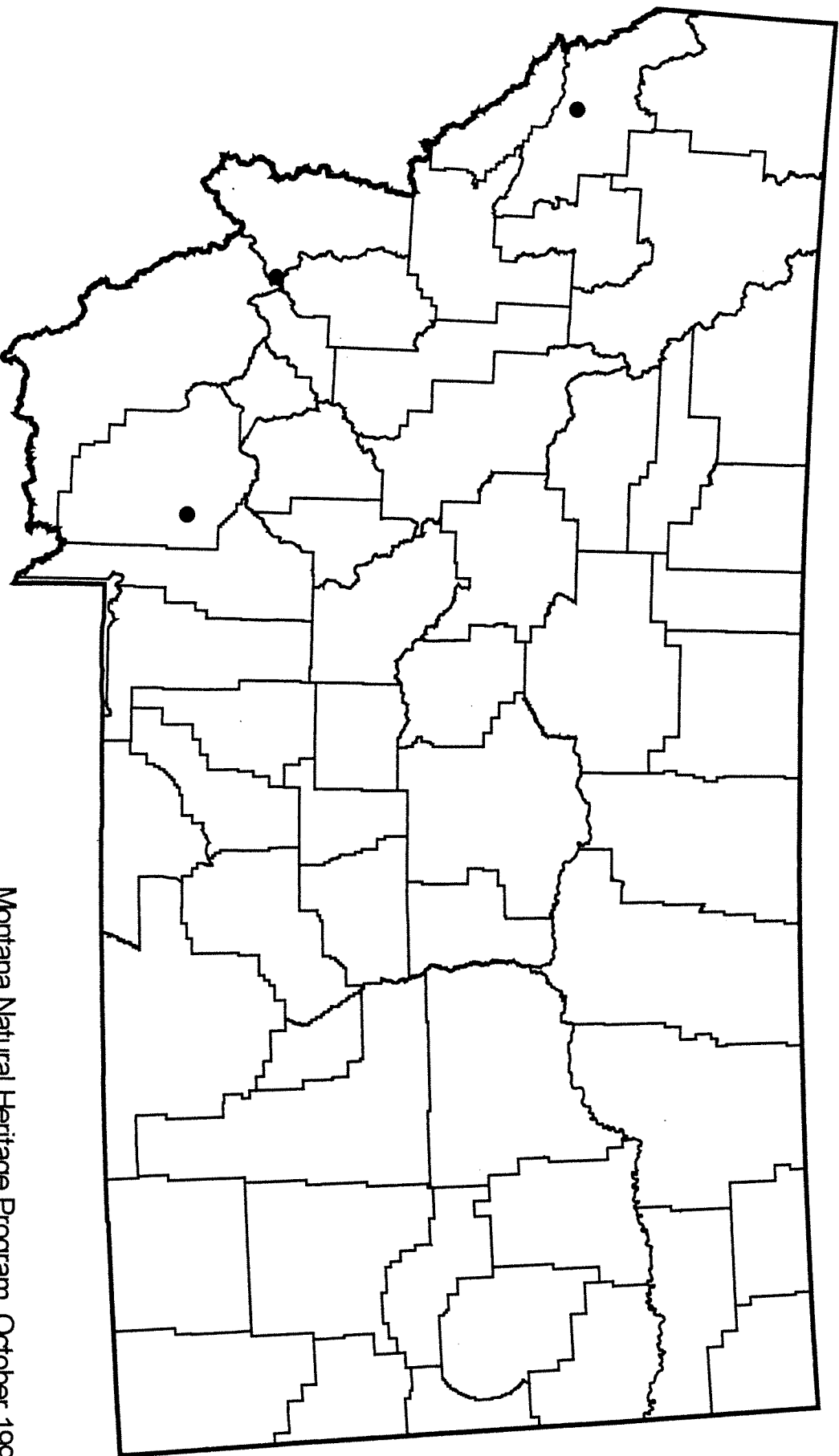
Land Ownership Summary:

ANACONDA-PINTLER WILDERNESS
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, MADISON RANGER DISTRICT
BITTERROOT NATIONAL FOREST, SULA RANGER DISTRICT
LOLO NATIONAL FOREST, PLAINS/THOMPSON FALLS RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

---REFERENCES---

Montana Distribution
of

Allium acuminatum (Tapertip Onion)



Montana Natural Heritage Program, October 1996

Allium fibrillum M.E. Jones
(Fringed Onion)

Family: LILIACEAE

Global rank: G4 USFS Region 1 status: SENSITIVE
State rank: S2 USFWS status:
 BLM status:

Description: Fringed onion has 2 leaves that are concave in cross-section, 1-3 mm wide, and up to 15 cm long. Bulbs are ovoid in shape with a gray-brown outer coat; flower stalk is up to 15 cm tall, usually shorter than the leaves; 2 membranous bracts below the cluster of flowers; flowers have 6 lance-shaped petals (actually tepals) that are white or pinkish with green midveins. The ovary does not have a conspicuous crown. Flowering June to early July.

The only other onion in northwest Montana that is usually less than 15 cm tall with only 2 leaves is A. TEXTILE, which has 3 bracts below the flower cluster and bulb coats that are very fibrous, resembling burlap.

Global range: Eastern OR and se. WA, adjacent ID and nw. MT. Regional endemic.

State range: Cabinet Mtns., Mission Mtns., and Lewis Range.

Montana counties: Flathead, Glacier, Lincoln, Missoula, Pondera

Habitat: Moist, shallow soil in the montane zone. Elev. 4920-7000 ft.

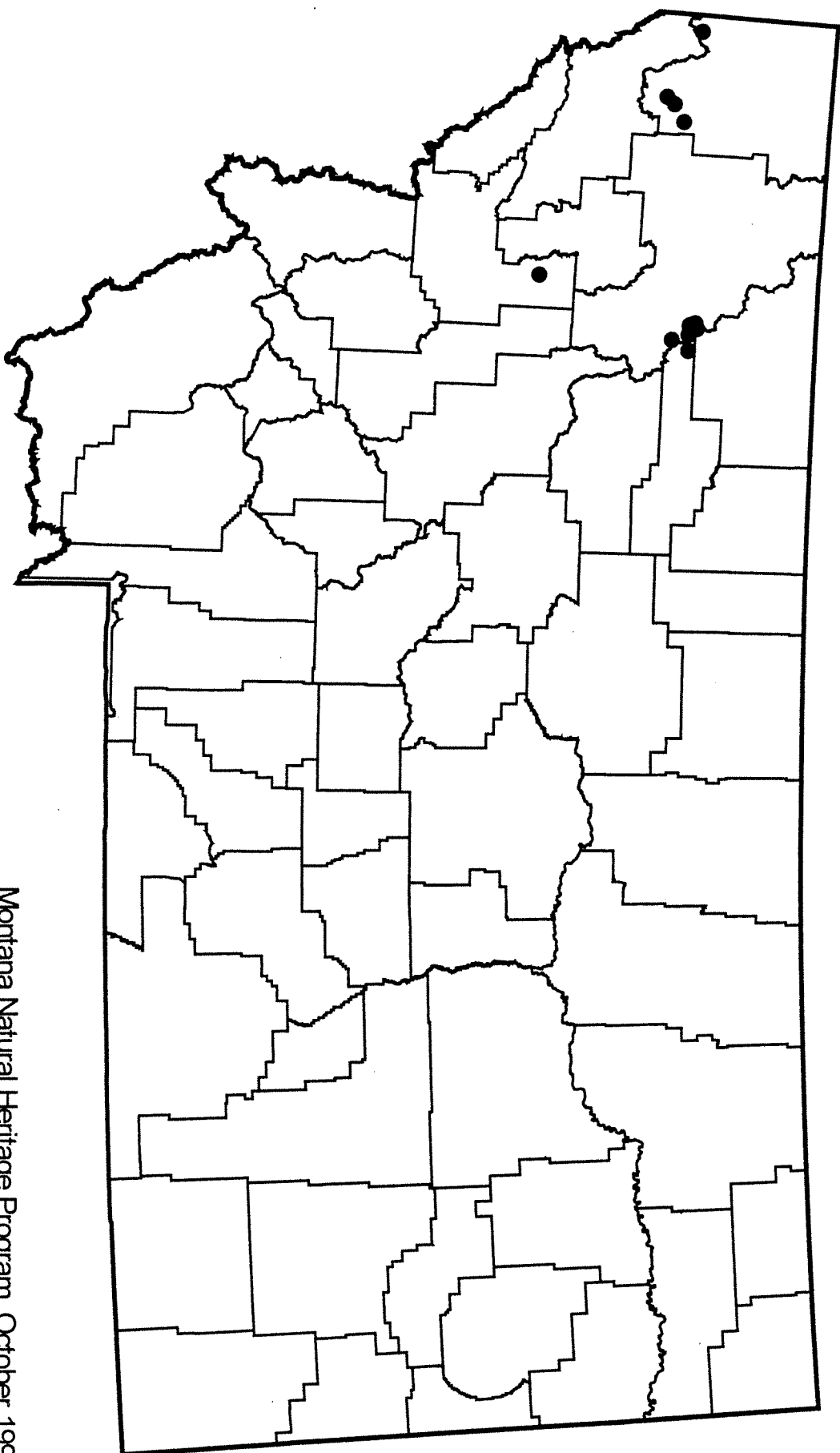
Land Ownership Summary:

CORPORATE TIMBERLANDS
FLATHEAD NATIONAL FOREST, HUNGRY HORSE RANGER DISTRICT
FLATHEAD NATIONAL FOREST, SWAN LAKE RANGER DISTRICT
GLACIER NATIONAL PARK
KOOTENAI NATIONAL FOREST, FISHER RIVER RANGER DISTRICT
KOOTENAI NATIONAL FOREST, THREE RIVERS RANGER DISTRICT
LEWIS & CLARK NATIONAL FOREST, ROCKY MOUNTAIN RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

---REFERENCES---

Montana Distribution
of

Allium fibrillum (Fringed Onion)



Montana Natural Heritage Program, October 1996

Allotropa virgata Torr. & Gray ex Gray
(Candystick)

Family: MONOTROPACEAE

Global rank: G4 USFS Region 1 status: SENSITIVE
State rank: S2S3 USFWS status:
 BLM status:

Description: Candystick has pink-and-white striped stems, 1-4 dm (4-16 in) high and 5-10 mm thick. Stems are clothed in white to pinkish, alternate, lance-shaped leaves that are largest near mid-stem. Flowers are borne in tight clusters in the axils of the upper leaves (bracts). Each flower has 5 separate, white to pinkish sepals, ca. 5 mm long, and 10 purple stamens. Petals are lacking. The 5-lobed ovary matures to form a many-seeded capsule. Flowering in July and August.

The pink-and-white stems lacking green leaves are distinctive.

Global range: S. Sierra Nevada and the coastal ranges of CA, n. to B.C. from the eastern slope of the Cascade Range to near the coast; disjunct in ID and sw. MT. Disjunct.

State range: Anaconda Range, Beaverhead Mtns., Bitterroot Mtns., Flint Creek Range, Sapphire Mtns. and West Pioneer Mtns.

Montana counties: Beaverhead, Deer Lodge, Granite, Ravalli

Habitat: Deep humus of mature, usually lodgepole pine forests in the montane zone. Elev. 5840-8640 ft.

Land Ownership Summary:

ANACONDA-PINTLER WILDERNESS
BASS CREEK PROPOSED RESEARCH NATURAL AREA
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, DEER LODGE RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, PHILIPSBURG RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, WISDOM RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, WISE RIVER RANGER DISTRICT
BITTERROOT NATIONAL FOREST, DARBY RANGER DISTRICT
BITTERROOT NATIONAL FOREST, STEVENSVILLE RANGER DISTRICT
BITTERROOT NATIONAL FOREST, SULA RANGER DISTRICT
BITTERROOT NATIONAL FOREST, WEST FORK RANGER DISTRICT
LOLO NATIONAL FOREST, MISSOULA RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
SELWAY-BITTERROOT WILDERNESS

---REFERENCES---

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- Lichthardt, J. J. 1992. Population monitoring of ALLOTROPA VIRGATA (candystick) on the Nez Perce National Forest: third-year results. Unpublished report. Idaho Department of Fish and Game. Boise, Idaho. 21 pp.
- Lorain, C. C. 1988. Floristic history and distribution of coastal disjunct plants of the northern Rocky Mountains. M.S. thesis. College of Forestry, Wildlife, and Range Sciences, University of Idaho, Moscow. 221 pp.
- Poole, J. M. 1992. Results of field surveys for ALLOTROPA VIRGATA on the Beaverhead and Deerlodge National Forests. Unpublished report. Montana Natural Heritage Program. Helena, MT. 11 pp. plus appendix.
- Roe, L. S. 1992. Status review of ALLOTROPA VIRGATA, Bitterroot and Deerlodge National Forest. Unpublished report. Montana Natural Heritage Program, Helena, MT. 13 pp. plus appendices.

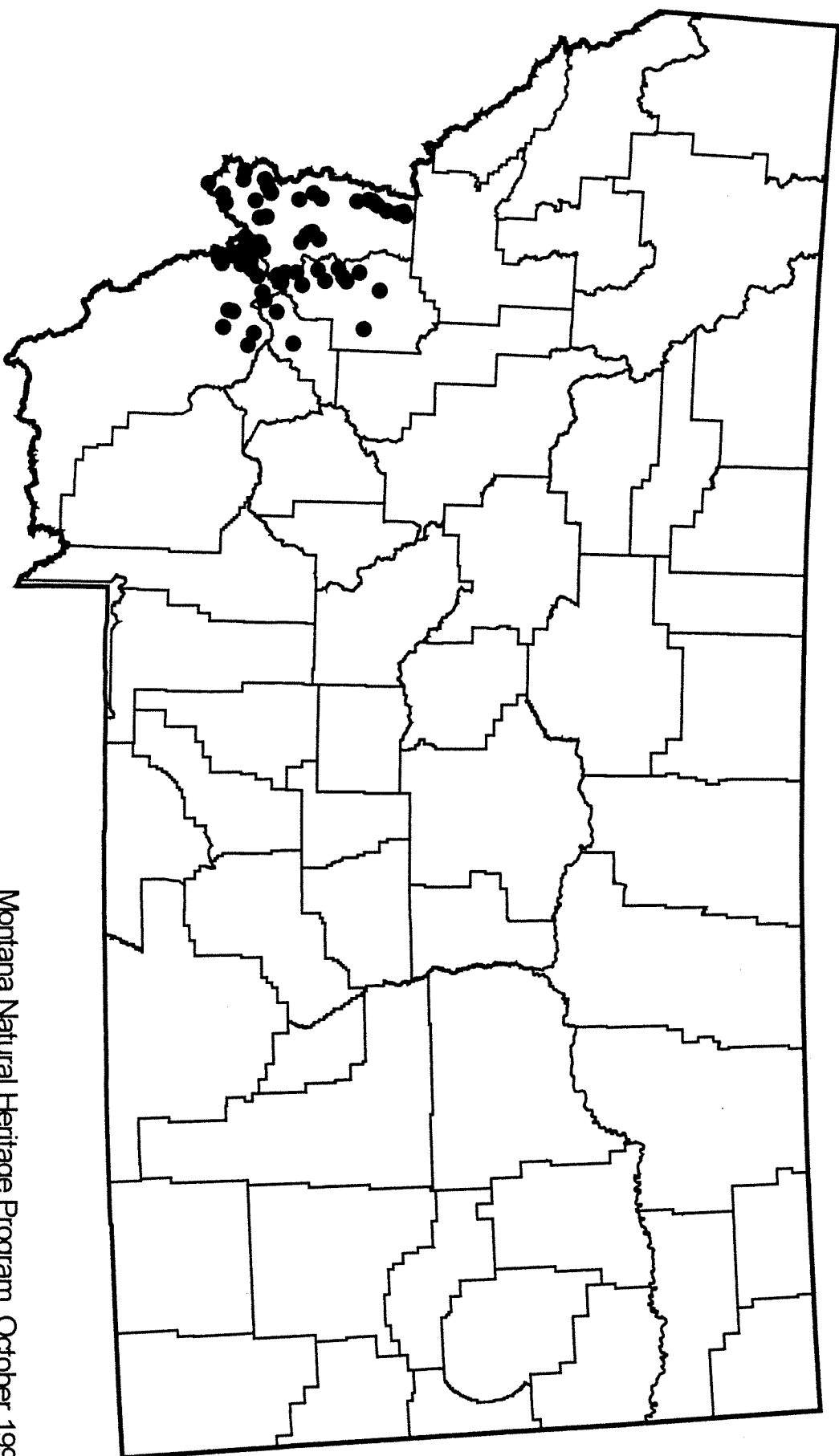
Steele, R. and P. F. Stickney. 1974. ALLOTROPA VIRGATA (Ericaceae), first records for Idaho and Montana. Madrono 22(5):277.

Takahashi, H. 1987. Pollen morphology and its taxonomic significance of the Monotropeae (Ericaceae).

Wallace, G. D. 1977. Studies of the Monotropeae (Ericaceae) Floral nectaries: anatomy and function in pollination ecology. American Journal of Botany 64:199-206.

Montana Distribution
of

Allotropa virgata (Candystick)



Montana Natural Heritage Program, October 1996

Amerorchis rotundifolia (Banks ex Pursh) Hulten
(Round-leaved Orchis)

Family: ORCHIDACEAE

Global rank: G5 USFS Region 1 status: SENSITIVE
State rank: S2S3 USFWS status:
 BLM status: WATCH

Description: Round-leaved orchis is a glabrous, rhizomatous perennial with a single sub-basal leaf, and a stem 10-20 cm tall. Leaf is elliptic to orbicular, with a rounded tip, and up to 10 cm long. The few-to-several flowers terminate the stem in a narrow inflorescence; there are 3 white to pale pink sepals; the upper is hood-shaped and 6-10 mm long, slightly larger than the lateral ones; the 2 upper petals are narrowly lance-shaped; the large, lower petal (lip) is up to 9 mm long, white, spotted with purple, and deeply 3-lobed with a pair of lateral lobes and a notched lower one. Capsule is elliptic and contains thousands of tiny seeds. Flowering in late June and early July.

This species is easy to recognize by the single leaf and distinctive flower. CALYPSO BULBOSA also has a single leaf but the pink flowers are solitary and much larger.

Global range: AK to Greenland, s. to s. B.C., nw. MT, and nw. WY, MN, MI, WI, and NY. Peripheral.

State range: Flathead Range, Front Range, Salish Mtns., and Whitefish Range.

Montana counties: Flathead, Lewis and Clark, Lincoln, Pondera, Powell, Teton

Habitat: Drier microhabitats in wet spruce forest around seeps or along streams, often in soil derived from limestone. Elev. 3350-5920 ft.

Land Ownership Summary:

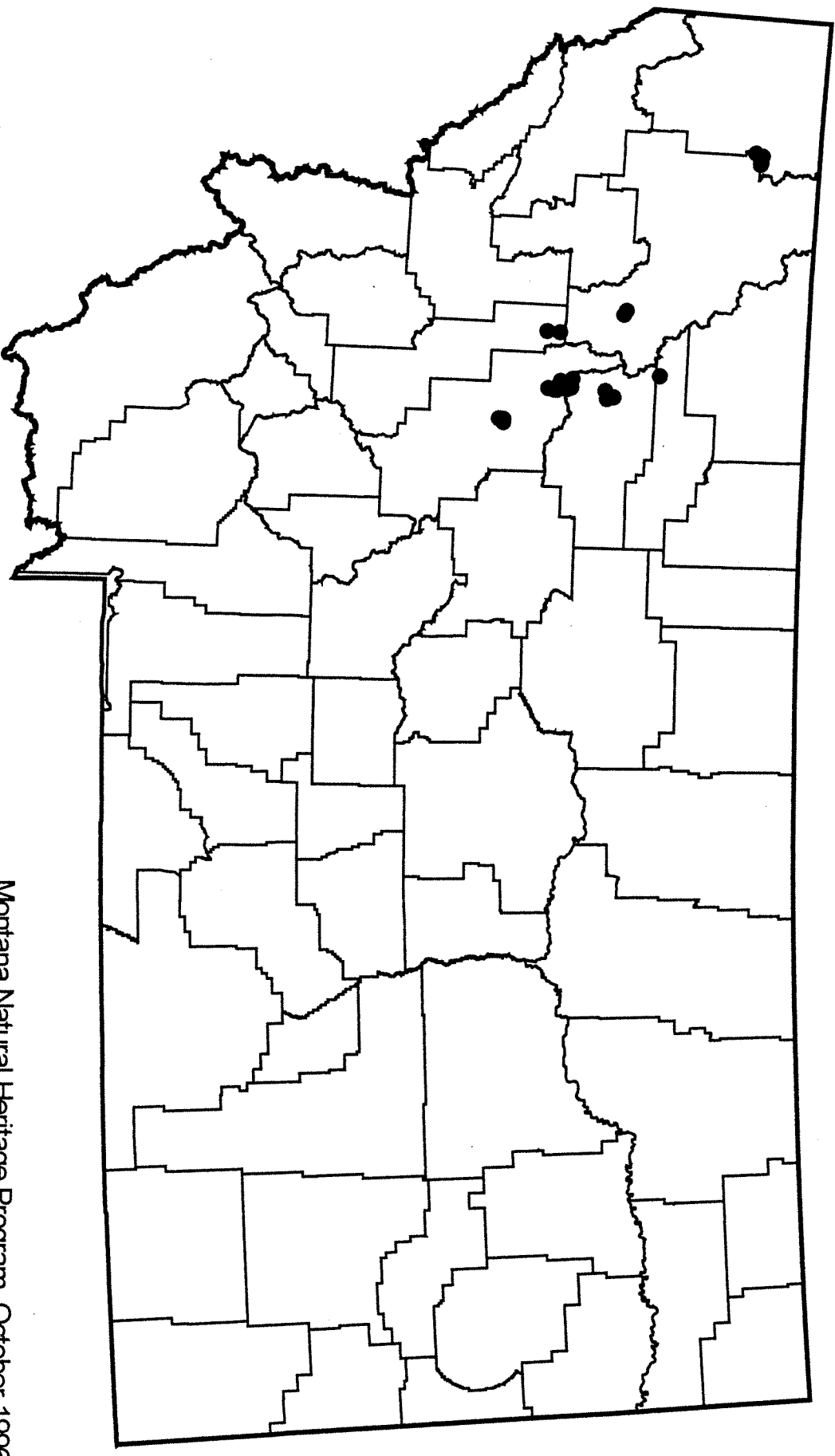
BLACKFEET INDIAN RESERVATION
BLM: LEWISTOWN DISTRICT, GREAT FALLS RESOURCE AREA
BOB MARSHALL WILDERNESS
EAR MOUNTAIN OUTSTANDING NATURAL AREA
FLATHEAD NATIONAL FOREST, SPOTTED BEAR RANGER DISTRICT
KOOTENAI NATIONAL FOREST, FORTINE RANGER DISTRICT
LEWIS & CLARK NATIONAL FOREST, ROCKY MOUNTAIN RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
STATE LAND - UNDESIGNATED

---REFERENCES---

Shelly, J. S. 1988. Status review of ORCHIS [AMERORCHIS] ROTUNDIFOLIA, Flathead and Lewis and Clark National Forests, Montana. Unpublished report. Montana Natural Heritage Program, Helena, MT. 59 pp.

Montana Distribution
of

Amerorchis rotundifolia (Round-leaved Orchis)



Montana Natural Heritage Program, October 1996

Antennaria densifolia Porsild
(Dense-leaved Antennaria)

Family: ASTERACEAE

Global rank: G3 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status:

Description: Dense-leaved pussytoes is a low, mat-forming perennial with stems, 2-6 cm (1-2 in) high, that spread by prostrate runners from a branched rootcrown clothed in old leaf bases. The broadly spoon-shaped basal leaves are 3-6 mm long, while the alternate stem leaves are shorter and narrowly lance-shaped with small, curled tips. The foliage is densely covered with long white hairs. 2-5 flower heads are borne atop the stems, and male and female flowers are borne on different plants. Female flower heads have 3-4 series of overlapping, narrowly lance-shaped involucral bracts, 4-5 mm long with brownish, papery tips, and white disk flowers, ca. 3 mm long. Ray flowers are lacking. Male heads are slightly broader with shorter involucral bracts. The seed (achene) has long, stiff bristles (pappus) at the top. Flowering in July and August.

There are many species of small-leaved, mat-forming ANTENNARIA. Only 2 other species have papery tips of involucral bracts that are brownish: A. UMBRINELLA has longer, more lance-shaped leaves, and A. AROMATICA has foliage with glandular hairs and basal leaves that are usually greater than 6 mm long. A hand lens is necessary to discern the diagnostic characters.

Global range: Northwest Can.; sw. MT. Disjunct.

State range: Anaconda Range.

Montana counties: Deer Lodge, Granite

Habitat: Limestone talus near or above timberline. Elev. 9100- ft.

Land Ownership Summary:

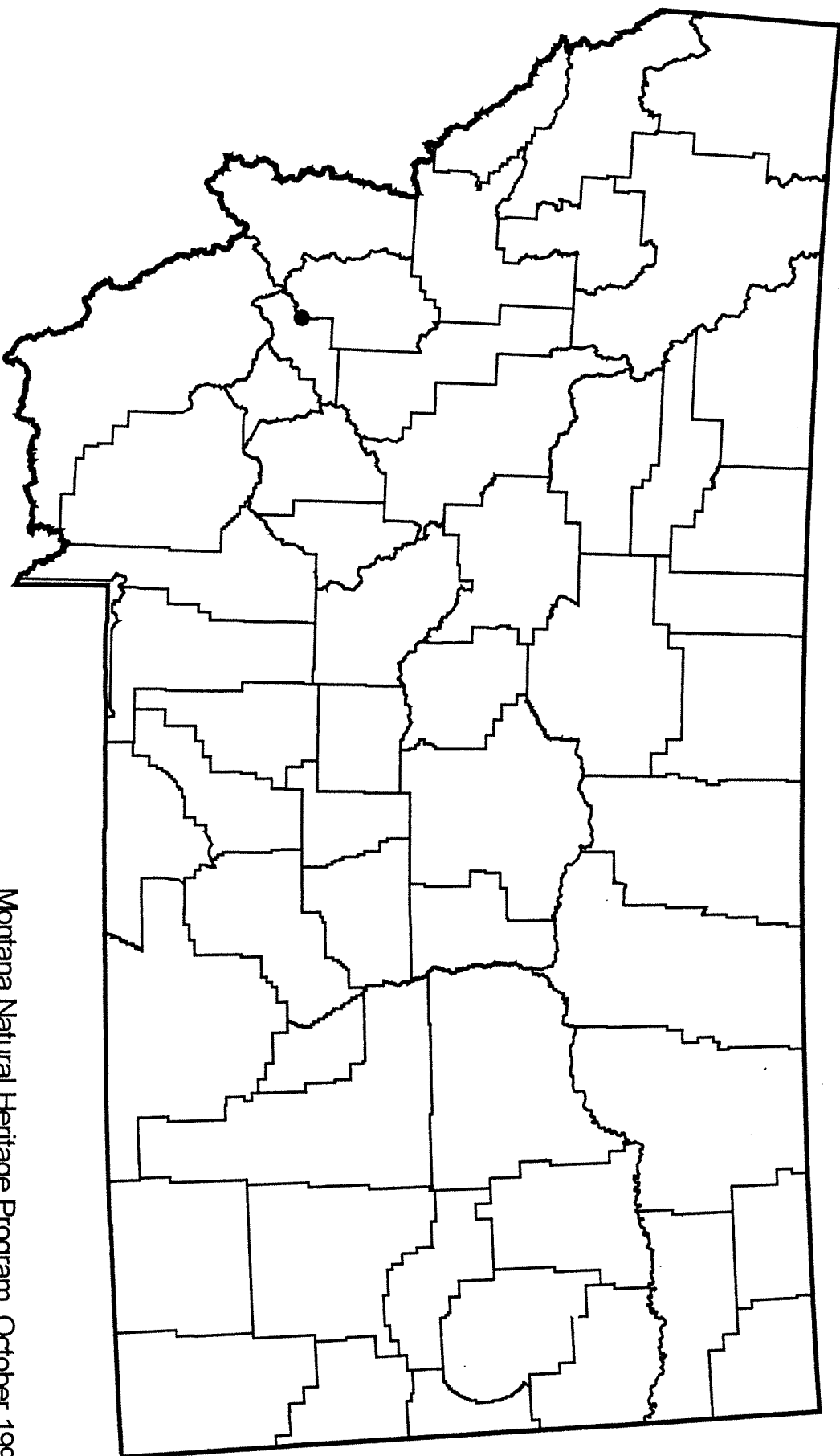
ANACONDA-PINTLER WILDERNESS
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, PHILIPSBURG RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, WISE RIVER RANGER DISTRICT

---REFERENCES---

- Achuff, P. L. and L. S. Roe. 1992. Botanical survey of the Goat Flat Proposed Research Natural Area. Unpublished report to the Deerlodge National Forest. Montana Natural Heritage Program, Helena, MT. 31 pp.
- Bayer, R. J. 1989. A systematic and phytogeographic study of ANTENNARIA AROMATICA and A. DENSIFOLIA (Asteraceae: Inuleae) in the western North American cordillera. Madrono 36:248-259.
- Bayer, R. J. 1989. Patterns of isozyme variation in western North American ANTENNARIA (ASTERACEAE: INULEAE) II. Diploid and polyploid species of section Alpinae. Amer. J. Bot. 76:679-691.

Montana Distribution
of

Antennaria densifolia (Dense-leaved Antennaria)



Montana Natural Heritage Program, October 1996

Aquilegia brevistyla Hook.
(Short-styled Columbine)

Family: RANUNCULACEAE

Global rank:	G5	USFS Region 1 status:	SENSITIVE
State rank:	S2	USFWS status:	
		BLM status:	

Description: Short-styled columbine is a slender, sparingly branched, perennial with stems up to 80 cm tall that are lightly pubescent below and glandular above. The basal leaves have long petioles with blades that are lobed and wavy-margined; the few stem leaves are lobed and nearly without petioles. The typical columbine flowers are 15-25 mm long with blue or purple reflexed sepals and yellowish-white, horn-shaped petal; the bluish spurs of the petals are curved inward at the tip and 6-8 mm long. Stamens and styles barely protrude beyond the petals; the five-lobed seed capsules are pubescent. Flowering in June and early July

This species can be distinguished from other blue-flowered columbines in Montana by the incurved tips of the petal spurs.

Global range: AK and n. B.C., s. to SD and MT. Peripheral.

State range: Little Belt Mtns., specimen from Absaroka Mtns. is dubious.

Montana counties: Judith Basin, Sweet Grass

Habitat: Open woods and stream banks at mid-elevations in the mountains. Elev. 5000-6200 ft.

Land Ownership Summary:

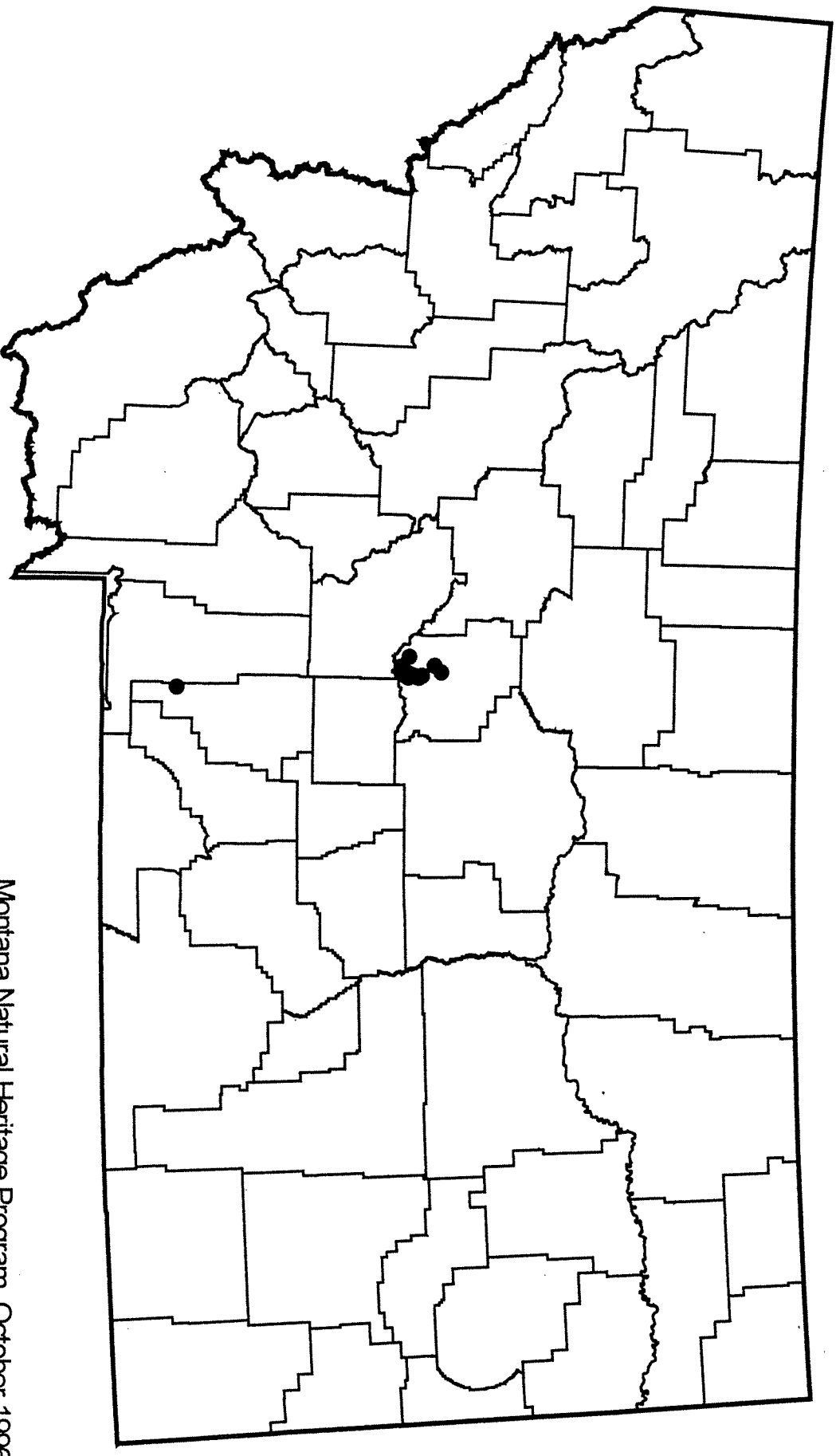
GALLATIN NATIONAL FOREST, BIG TIMBER RANGER DISTRICT
LEWIS & CLARK NATIONAL FOREST, JUDITH RANGER DISTRICT

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Montana Distribution
of

Aquilegia brevistyla (Short-styled Columbine)



Montana Natural Heritage Program, October 1996

Arabis fecunda Rollins
(Sapphire Rockcress)

Family: BRASSICACEAE

Global rank: G2 USFS Region 1 status: SENSITIVE
State rank: S2 USFWS status:
 BLM status: SENSITIVE

Description: Sapphire rockcress is a small perennial with 1 to many clusters of basal leaves from a branched rootcrown and 1 to many (usually 3+) unbranched flowering stems up to 30 cm high. The spoon-shaped or lance-shaped basal leaves are 10-30 mm long and 2-4 mm wide, with entire margins or a few shallow lobes toward the tip; the stem leaves are smaller and clasping; usually two distinct types of basal leaves can be distinguished: larger, broader ones produced in the fall, and narrower ones produced in the spring; the leaves and stem are grayish-white with a dense cover of small, branched hairs. The several to many white or bluish-tinged flowers are borne in an unbranched spike-like inflorescence; the flowers are tightly clustered at first, but become further apart in fruit; they have 4 petals, 9-13 mm long and 3-5 mm wide, and densely hairy sepals, 6-7 mm long and ca. 2 mm wide. The grayish-hairy fruits are 3-5 cm long and 1-2 mm wide; they are held nearly erect when mature and have two narrow chambers with a single row of small seeds in each one. Flowering from late April through early June.

Distinguished from other ARABIS sp. in Montana by the nearly erect, densely hairy fruits and the two different types of basal leaves.

Global range: Endemic to southwest Montana.

State range: East Pioneer Mtns., Highland Mtns., and Sapphire Mtns.

Montana counties: Beaverhead, Ravalli, Silver Bow

Habitat: Open, rocky, often eroding slopes developed from calcareous parent material in the foothills and montane zones, restricted to the contact zone with igneous rock. Elev. 4200-8000 ft.

Land Ownership Summary:

BEAVERHEAD-DEERLODGE NATIONAL FORESTS, BUTTE RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, JEFFERSON RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, WISE RIVER RANGER DISTRICT
BLM: BUTTE DISTRICT, DILLON RESOURCE AREA
BLM: BUTTE DISTRICT, HEADWATERS RESOURCE AREA
HUMBUG SPIRES PRIMITIVE AREA
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
STATE LAND - UNDESIGNATED

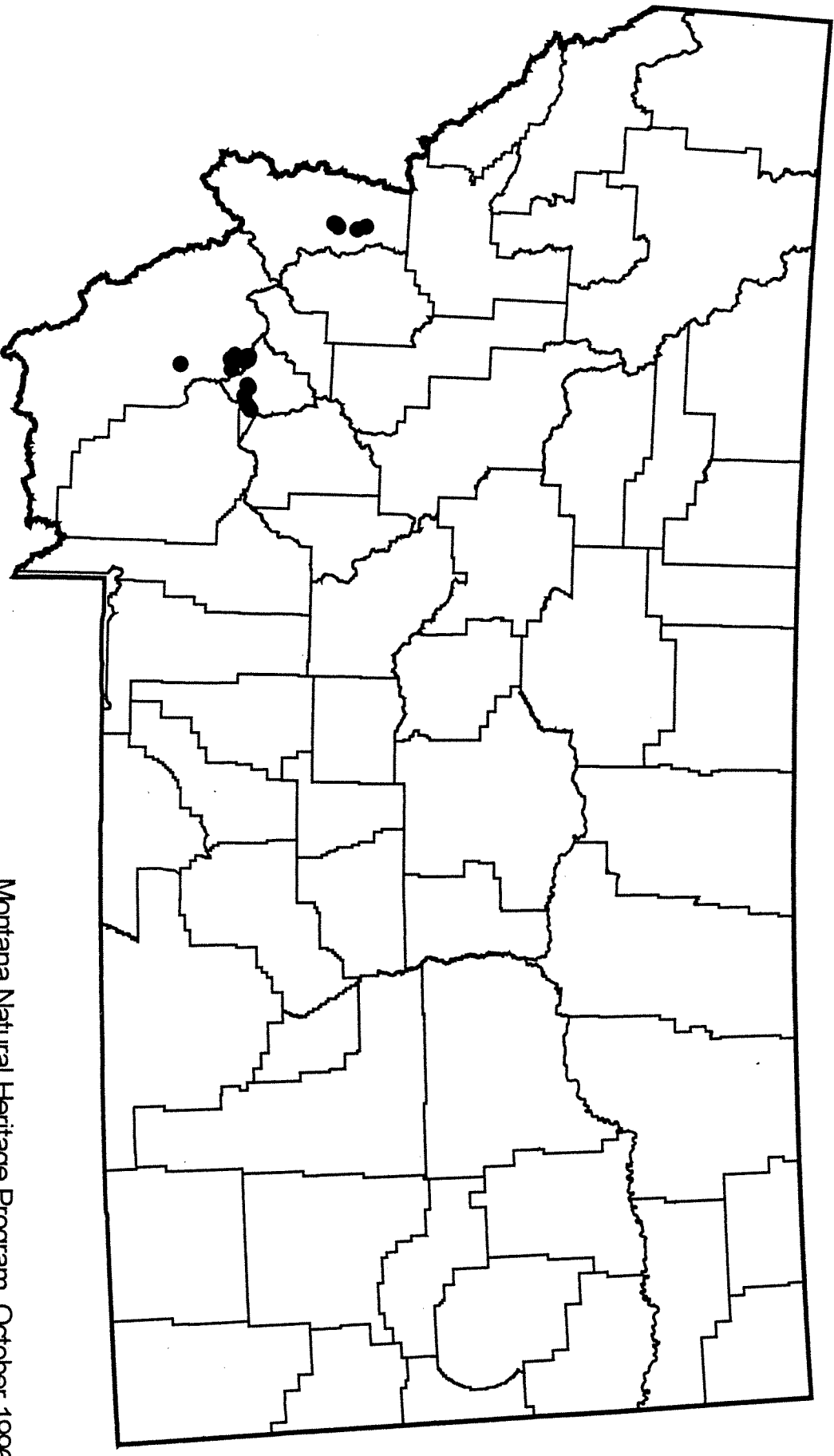
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- Lesica, P. 1992. The occurrence of ARABIS FECUNDA on BLM Lands in the Humbug Spires area, Silver Bow County. Unpublished report to the BLM. Montana Natural Heritage Program. Helena, Montana. 6 pp.
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Montana Distribution
of

Arabis fecunda (Sapphire Rockcress)



Montana Natural Heritage Program, October 1996

Asplenium trichomanes L.
(Maidenhair Spleenwort)

Family: ASPLENIACEAE

Global rank: G5 USFS Region 1 status: SENSITIVE
State rank: SH USFWS status:
 BLM status: WATCH

Description: Maidenhair spleenwort has short rhizomes, and glabrous, evergreen fronds clustered from the base of the plant. Each frond is 7-35 cm long, and is pinnately divided into numerous pinnae (leaflets) arranged alternately on the shiny, reddish-brown central axis (rachis) of the frond. The naked petioles and rachises tend to persist after the pinnae have fallen; each pinna is 5 mm wide, entire-margined below, but shallowly lobed toward the tip. Spores are borne in 1-4 clusters arranged along the veins on the undersides of the pinnae; the spores are partially enfolded by a thin, white tissue (indusium). Mature fronds in July.

This species can be distinguished from the more common A. VIRIDE by its shiny, reddish-brown leaf stems.

Global range: Interruptedly circumboreal, extending s., in America, to OR, AZ, TX and GA, apparently absent from CA, NV, and UT. Sparse.

State range: Historically known from one collection near Columbia Falls; possibly in either Flathead, Livingston or Mission Mtns.

Montana counties: Flathead, Lake

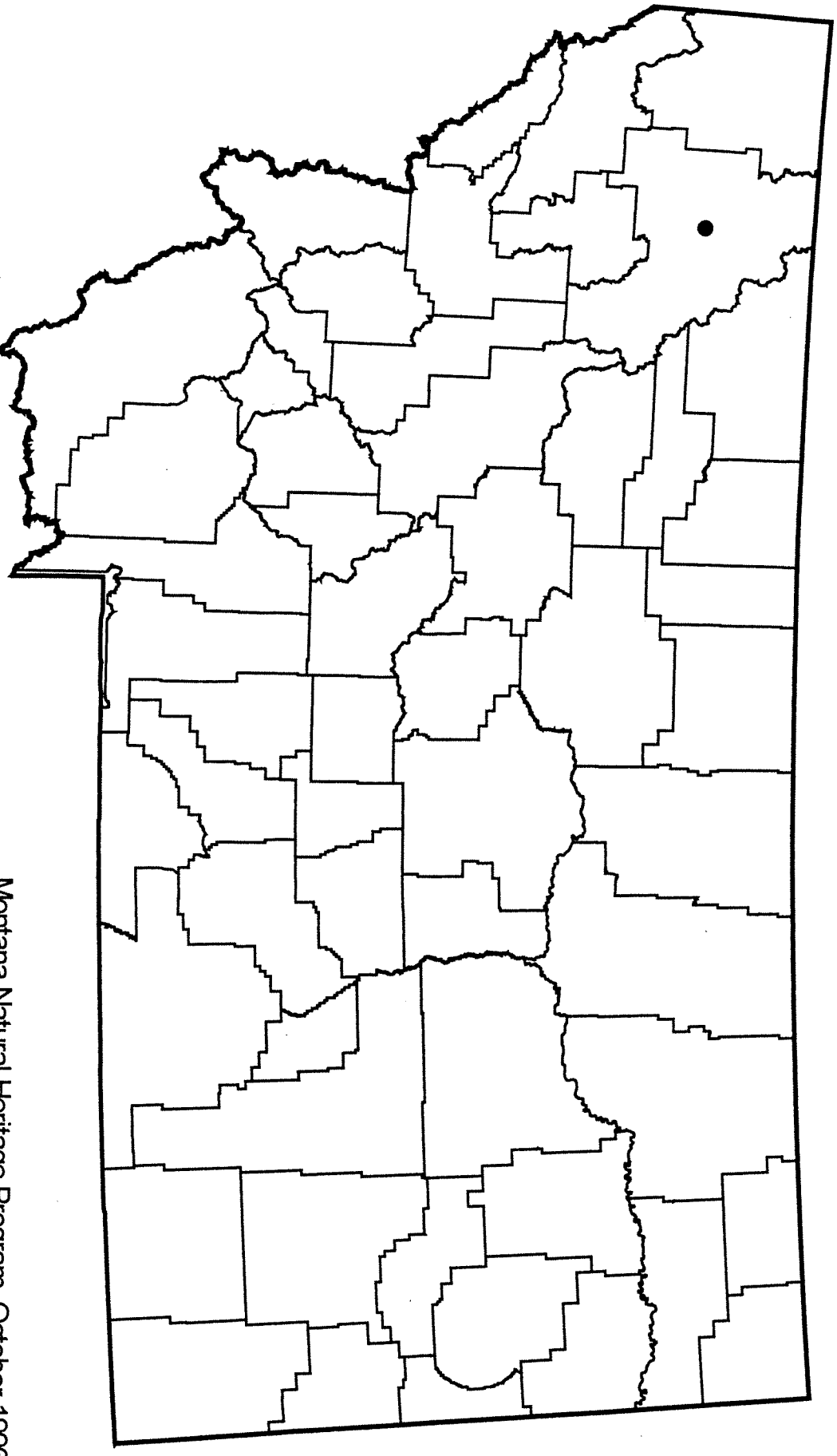
Habitat: Rock crevices and talus slopes, usually where moist, in the montane zone. Elev. 3000- ft.

Land Ownership Summary:
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

---REFERENCES---

Montana Distribution
of

Asplenium trichomanes (Maidenhair Spleenwort)



Montana Natural Heritage Program, October 1996

Astragalus barrii Barneby
(Barr's Milkvetch)

Family: FABACEAE

Global rank: G3	USFS Region 1 status: SENSITIVE
State rank: S3	USFWS status:
	BLM status: WATCH

Description: Barr's milkvetch is a perennial that forms extensive, dense mats, with prostrate or ascending stems up to 2 cm long from a woody rootcrown. Leaves have three narrowly lance-shaped leaflets and are 1-4 cm long; herbage densely covered with short white hairs; stipules at base of leaves are membranous. Purple or pinkish-purple flowers (shaped like pea flowers) borne in narrow, open, few-flowered inflorescence; petals 7-17 mm long; calyx 3-5 mm long and densely covered with long, white hairs. The sparsely white-hairy pod (legume) is narrowly elliptical and 4-8 mm long and 1-2 mm in diameter. Flowering in May, fruiting late May and June.

The only other three-leafleted, mat-forming species in the range of A. BARRII in Montana are A. GILVIFLORUS and A. HYALINUS. The former has larger, yellowish-white flowers (usually >9 mm long). The latter has cream to whitish flowers that are typically larger than A. BARRII, with petals that are hairy on back (seen with a hand lens). are also two other very similar species occurring in the Big Horn Canyon-Pryor Mountain area west of the range of A. BARRII: A. ARETIOIDES and A. HYALINUS.

Global range: Southwestern SD, ne. WY, and se. MT. Regional endemic.

State range: Great Plains of se. MT.

Montana counties: Big Horn, Carter, Powder River, Rosebud

Habitat: Gullied knolls, buttes, and barren hilltops, usually on heavy clay or silt of a calcareous soft shale and siltstone complex. Elev. 2950-4000 ft.

Land Ownership Summary:

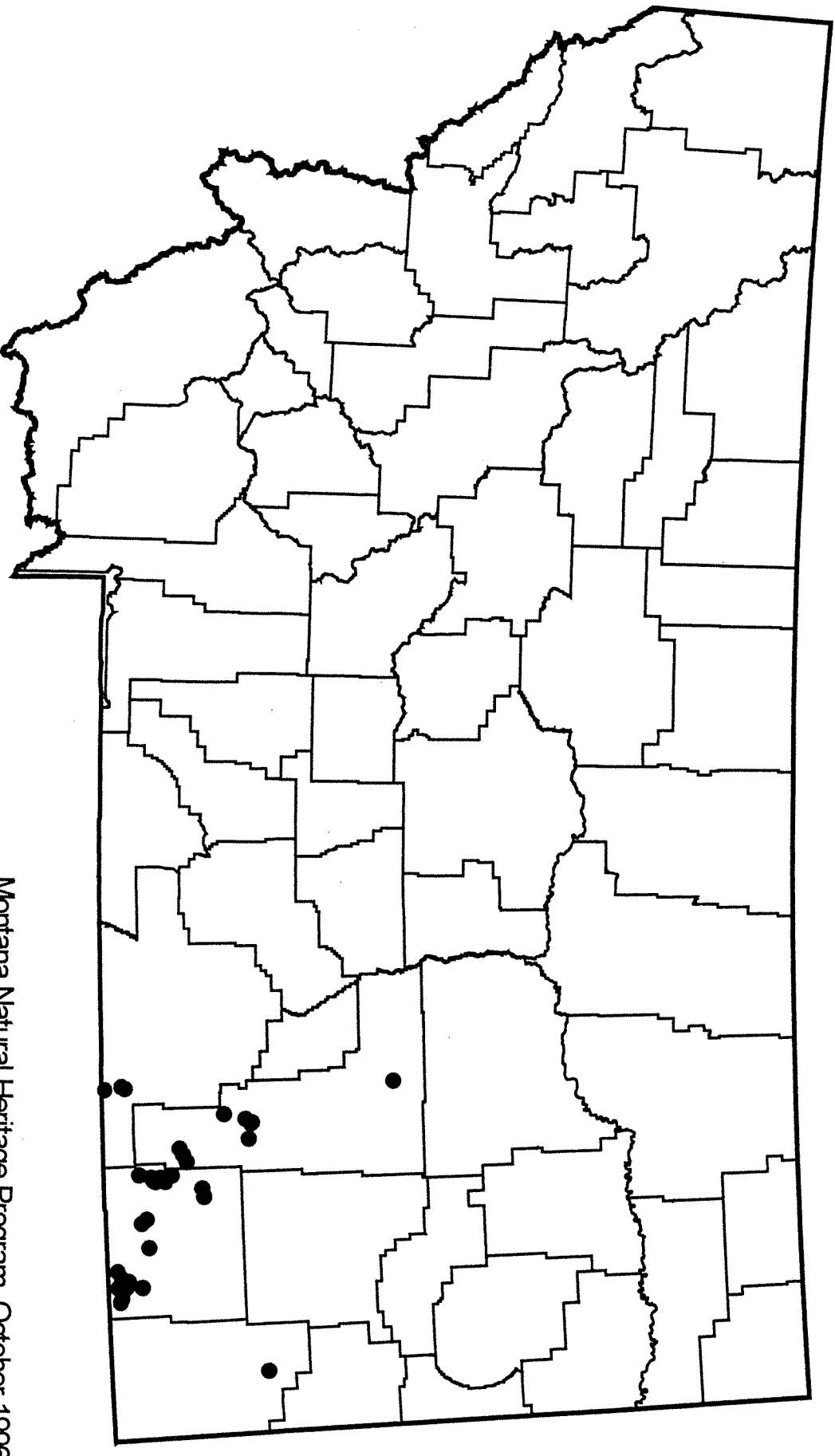
BLM: MILES CITY DISTRICT, POWDER RIVER RESOURCE AREA
CUSTER NATIONAL FOREST, ASHLAND RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
STATE LAND - UNDESIGNATED

---REFERENCES---

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Montana Distribution
of

Astragalus barrii (Barr's Milkvetch)



Montana Natural Heritage Program, October 1996

Astragalus molybdenus Barneby
(Leadville Milkvetch)

Family: FABACEAE

Global rank:	G3	USFS Region 1 status:	SENSITIVE
State rank:	S2	USFWS status:	
		BLM status:	

Description: Leadville milkvetch is a low and loosely tufted or matted perennial, with prostrate ascending stems up to 6 cm long. Leaves are alternate on the stem and 17 cm long, with 9-25 ovate or elliptic leaflets up to 8 mm long; herbage is usually sparsely hairy. The 2-6 flowers (shaped like pea flowers) are borne in a narrow, open inflorescence; petals are 8-13 mm long and purple or occasionally whitish; calyx is 5-7 mm long and densely covered with long, black hairs. Oval or elliptic pod is 7-11 mm long, 3 mm in diameter, and densely covered with black and/or white hairs. Flowering and fruiting in July and August

The genus *ASTRAGALUS* is very large, and many species that superficially resemble each other can occur in the same habitat. Both *A. ALPINUS* and *A. BOURGOVII* are small, low species that occur on limestone at high elevations in northwestern Montana. *ASTRAGALUS ALPINUS* has leaflets that are blunt at the tip and pods that are almost completely divided into two chambers. The pods of *A. BOURGOVII* are oval in cross-section, while those of *A. MOLYBDENUS* are more nearly triangular.

Global range: Central CO, nw. MT. Disjunct.

State range: Front Range.

Montana counties: Teton

Habitat: Turfy areas and talus slopes, on calcareous substrates at or above timberline.
Elev. 7260-8120 ft.

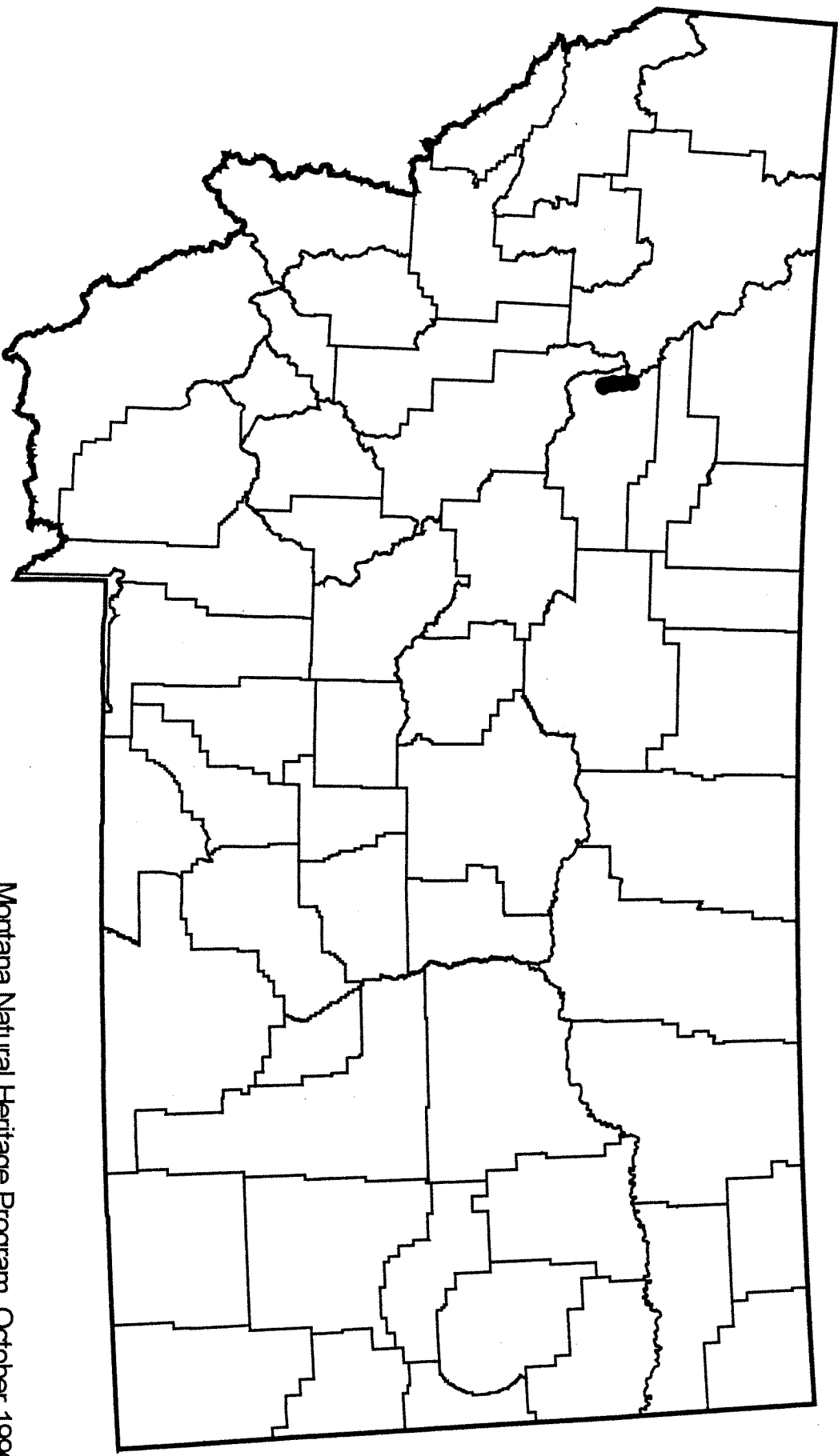
Land Ownership Summary:
BOB MARSHALL WILDERNESS
LEWIS & CLARK NATIONAL FOREST, ROCKY MOUNTAIN RANGER DISTRICT

---REFERENCES---

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- Phillips, H. Wayne. Lewis and Clark National Forest, 1101 15th Street North, P.O. Box 869, Great Falls, MT 59403. 406/791-7743.
- Schassberger, L. A. 1989. [Field surveys of the Front Range Mountains, 7-10 and 21-23 August (*ASTRAGALUS MOLYBDENUS*).]
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- Shelly, J. S. 1989. [Field surveys in Teton County, 7-10, 21-23, and 28-30 August (*ASTRAGALUS MOLYBDENUS*).]

Montana Distribution
of

Astragalus molybdenus (Leadville Milkvetch)



Montana Natural Heritage Program, October 1996

Astragalus scaphoides (M.E. Jones) Rydb.
(Bitterroot Milkvetch)

Family: FABACEAE

Global rank: G3 USFS Region 1 status: PROPOSED SENSITIVE
State rank: S2 USFWS status:
 BLM status: SENSITIVE

Description: Bitterroot milkvetch is a stout, herbaceous perennial with several erect stems, 2-6 dm (8-24 in) high, from a branched rootcrown. Pinnately compound leaves are 10-25 cm (4-10 in) long with 15-21 narrowly elliptic leaflets. Foliage is glabrous to sparsely hairy. Inflorescences are borne in the axils of upper leaves and have 15-30 spreading, crowded flowers that become more remote as the plant matures. Yellowish-white flowers are ca. 20 mm long with a reflexed upper petal and a blackish-hairy calyx, 8-10 mm long. Glabrous, green to reddish, oblong pods are 15-20 mm long and 2-chambered in cross-section. Each pod is borne on a stem ca. of equal length that spreads out and then arches up, holding the fruit nearly erect. Flowering in late May and early June, mature fruit in July

The long fruit stalks that arch out and up, holding the pods like a candelabra and pods that are 4-6 mm wide distinguish this from the similar species, A. ATROPUBESCENS and A. TERMINALIS.

Global range: Lemhi Co., ID and Beaverhead Co., MT. Regional endemic.

State range: Portion of Beaverhead River drainage.

Montana counties: Beaverhead

Habitat: Sagebrush steppe on warm slopes in the valleys and montane zone. Elev. 5300-6800 ft.

Land Ownership Summary:

BEAVERHEAD-DEERLODGE NATIONAL FORESTS, DILLON RANGER DISTRICT
BLM: BUTTE DISTRICT, DILLON RESOURCE AREA
HENNEBERRY FISHING ACCESS SITE
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
STATE LAND - UNDESIGNATED

---REFERENCES---

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- Lesica, P. 1984. Report on the conservation status of ASTRAGALUS SCAPHOIDES, a candidate threatened species. Unpublished report to the U.S. Fish and Wildlife Service, Denver, CO, 20 pp. plus appendices.
- Lesica, P. 1984. The distribution and reproduction effort of the rare plant ASTRAGALUS SCAPHOIDES in Montana and Idaho. Unpublished report prepared for The Nature Conservancy, Big Sky Field Office, Helena, MT. 14 pp.
- Lesica, P. 1993. Demographic monitoring of ASTRAGALUS SCAPHOIDES at two sites in Montana and Idaho. Prepared for Bureau of Land Management. Montana Natural Heritage Program, Helena, MT. 16 pp.
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Vanderhorst, J. 1995. Sensitive plant survey in the Horse Prairie Creek Drainage, Beaverhead County, Montana. Unpublished report to the Bureau of Land Management. Montana Natural Heritage Program, Helena, Montana. 42 pp plus appendices.

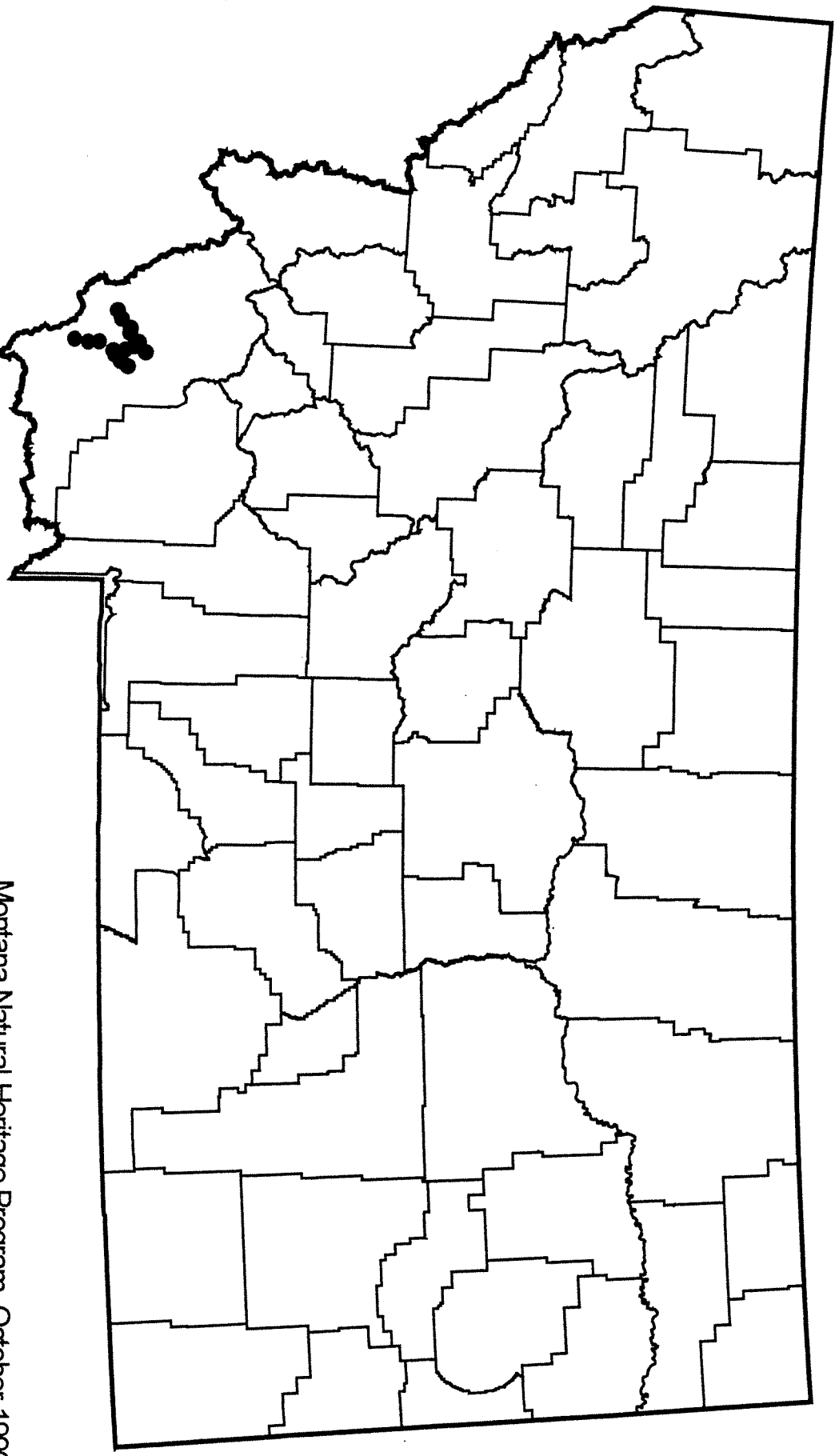
Vanderhorst, J. 1995. Sensitive plant survey of the Tendoy Mountains in the Beaverhead National Forest, Beaverhead County, Montana. Unpublished report to the Beaverhead National Forest. Montana Natural Heritage Program. Helena, MT. 69 pp.

Vanderhorst, J. P. and P. Lesica. 1994. Sensitive plant survey in the Tendoy Mountains, Beaverhead County, Montana. Unpublished report to the Bureau of Land Management, Butte District. Montana Natural Heritage Program, Helena. 59 pp. plus appendices.

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Montana Distribution
of

Astragalus scaphoides (Bitterroot Milkvetch)



Montana Natural Heritage Program, October 1996

Athysanus pusillus (Hook.) Greene
(Sandweed)

Family: BRASSICACEAE

Global rank: G4 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status:

Description: Sandweed is an annual with slender stems, to 15 cm (6 in) tall, that are simple or sparingly branched from the near the base. The alternate, lance-shaped leaves, 6-20 mm long, have toothed margins and are stalked below but sessile above. Foliage is covered with simple and branched hairs. Miniscule white flowers are born on short, spreading stalks in open unbranched inflorescences at the end of the stems. The four white petals are ca. 2 mm long, and the sepals are only 1 mm long. The broadly pear-shaped fruits, 2-3 mm long, are covered with hooked hairs and borne on reflexed stalks. Flowering in April and May

The annual habit and drooping, pear-shaped fruits covered with hooked hairs make this species distinctive.

Global range: Southern B.C. to CA, east to MT, ID and UT. Peripheral.

State range: Bitterroot Mtns.

Montana counties: Ravalli

Habitat: Vernal moist, shallow soil of steep slopes and cliffs in the lower montane zone. Elev. 4000-4800 ft.

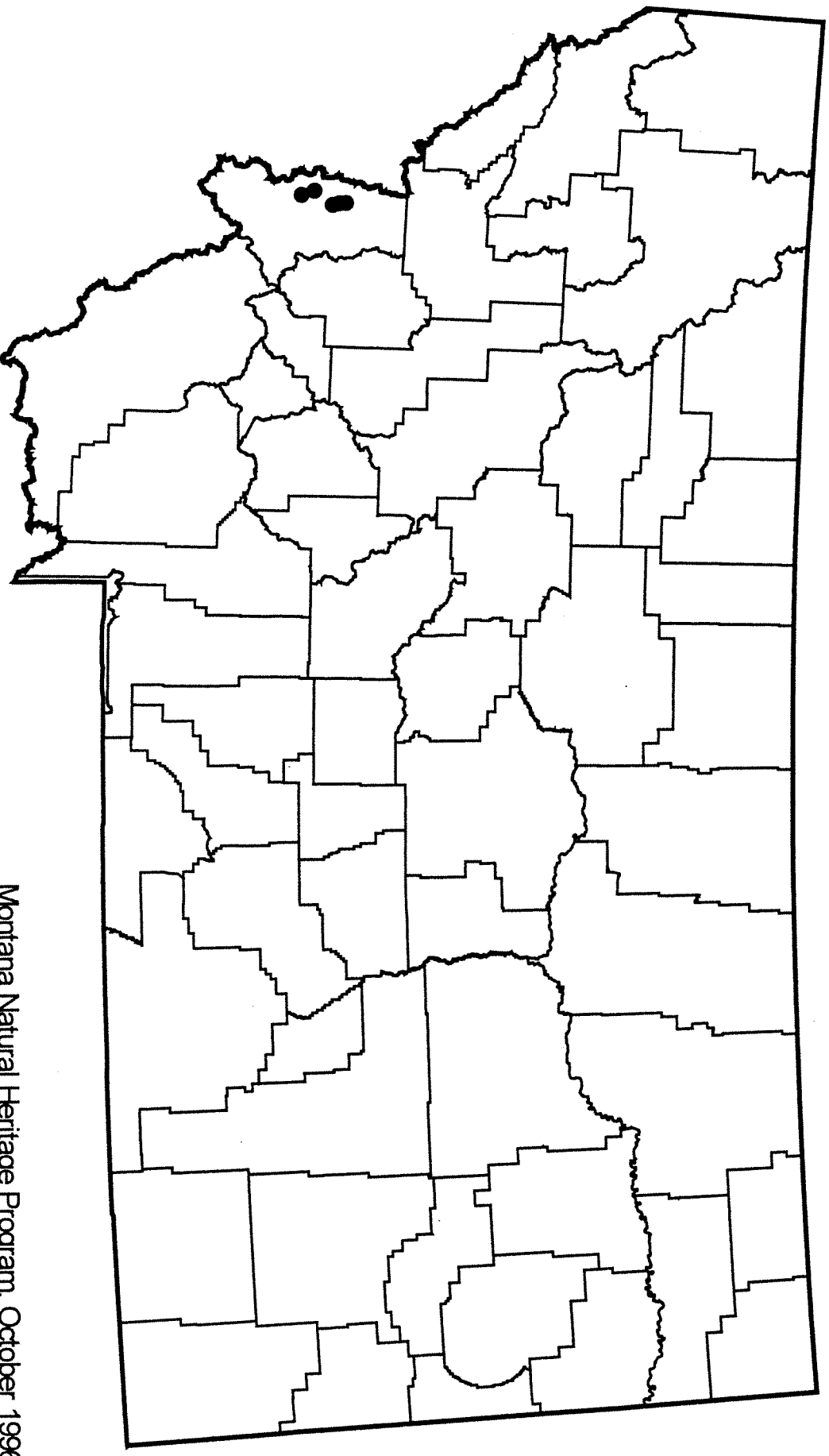
Land Ownership Summary:

BITTERROOT NATIONAL FOREST, DARBY RANGER DISTRICT
BITTERROOT NATIONAL FOREST, STEVENSVILLE RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
STATE LAND - UNDESIGNATED

---REFERENCES---

Montana Distribution
of

Athysanus pusillus (Sandweed)



Montana Natural Heritage Program, October 1996

Balsamorhiza macrophylla Nutt.
(Large-leafed Balsamroot)

Family: ASTERACEAE

Global rank: G3G5 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status: WATCH

Description: This is a large perennial with a well-developed taproot and a branched, underground rootcrown. The leafless flowering stems are 30-100 cm tall; the larger basal leaves are 30-60 cm long and pinnately divided into entire-margined or coarsely toothed segments 5-12 cm long; foliage has short, stiff hairs and/or long, sparse hairs. The large flower heads resemble those of a sunflower and are usually solitary at the ends of the stems; the lance-shaped involucre bracts are hairy and 25-50 mm long; the yellow ray flowers are 3-6 cm long, and the yellow disk flowers are ca. 11 mm long. The glabrous achenes (seeds) are lance-shaped and ca. 1 cm long. Flowering in late June and early July

The only other balsamroot in Montana with dissected leaves is *B. INCANA*, which has foliage with long, soft, white hairs.

Global range: N. UT, se. ID, through w. WY to the n. edge of the Snake R. plains, thence e. to Clark Co., ID and n. to Gallatin Co., MT. Peripheral.

State range: Centennial Mtns., Gallatin Range, and Madison Range.

Montana counties: Beaverhead, Gallatin, Madison

Habitat: Sagebrush and grasslands in the montane zone. Elev. 7000-8500 ft.

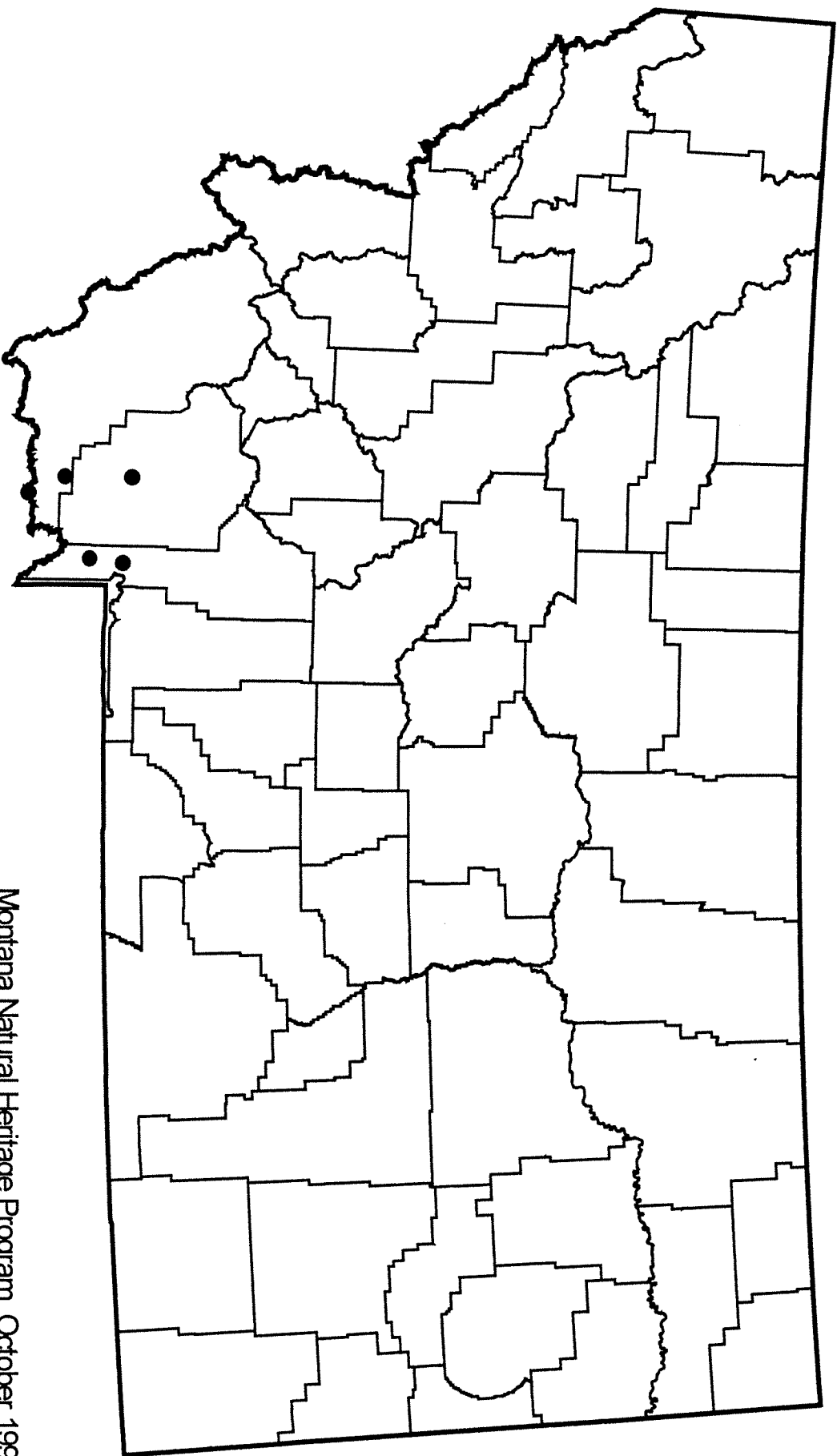
Land Ownership Summary:
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, MADISON RANGER DISTRICT
BLM: BUTTE DISTRICT, DILLON RESOURCE AREA
GALLATIN NATIONAL FOREST, HEBGEN LAKE RANGER DISTRICT
U.S. SHEEP EXPERIMENT STATION

---REFERENCES---

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Montana Distribution
of

Balsamorhiza macrophylla (Large-leaved Balsamroot)



Montana Natural Heritage Program, October 1996

Botrychium ascendens W.H. Wagner
(Upward-lobed Moonwort)

Family: OPHIOGLOSSACEAE

Global rank: G3? USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
BLM status:

Description: Upward-lobed moonwort has a solitary stem 5-15 cm (3-6 in) tall. The green herbage is hairless and somewhat fleshy. Each stem has a sterile portion resembling a stem leaf and a fertile portion bearing spores. The sterile portion, 15-35 mm long, is pinnately divided into ca. 7-11 ascending, raggedly and deeply toothed lobes that are relatively remote from each other. The fertile portion, 3-7 cm long, is 1-2 times branched and bears clusters of spore sacs along the margins of the ultimate segments. Leaves appearing in late spring to mid-summer.

This species is similar to both *B. CRENULATUM* and *B. MINGANENSE*, but can be distinguished by the sharply ascending upper segments of the sterile frond and the grassland habitat.

Global range: Yukon Territories, AK to CA and NV; in n. Rocky Mtns. from B.C., ID, and MT to WY. Also Ontario. Sparse.

State range: Cabinet Mtns., Salish Mtns., Lewis Range.

Montana counties: Flathead, Lewis and Clark, Lincoln

Habitat: Grasslands and meadows in the valleys and lower montane zone. Elev. 3250-4800 ft.

Land Ownership Summary:

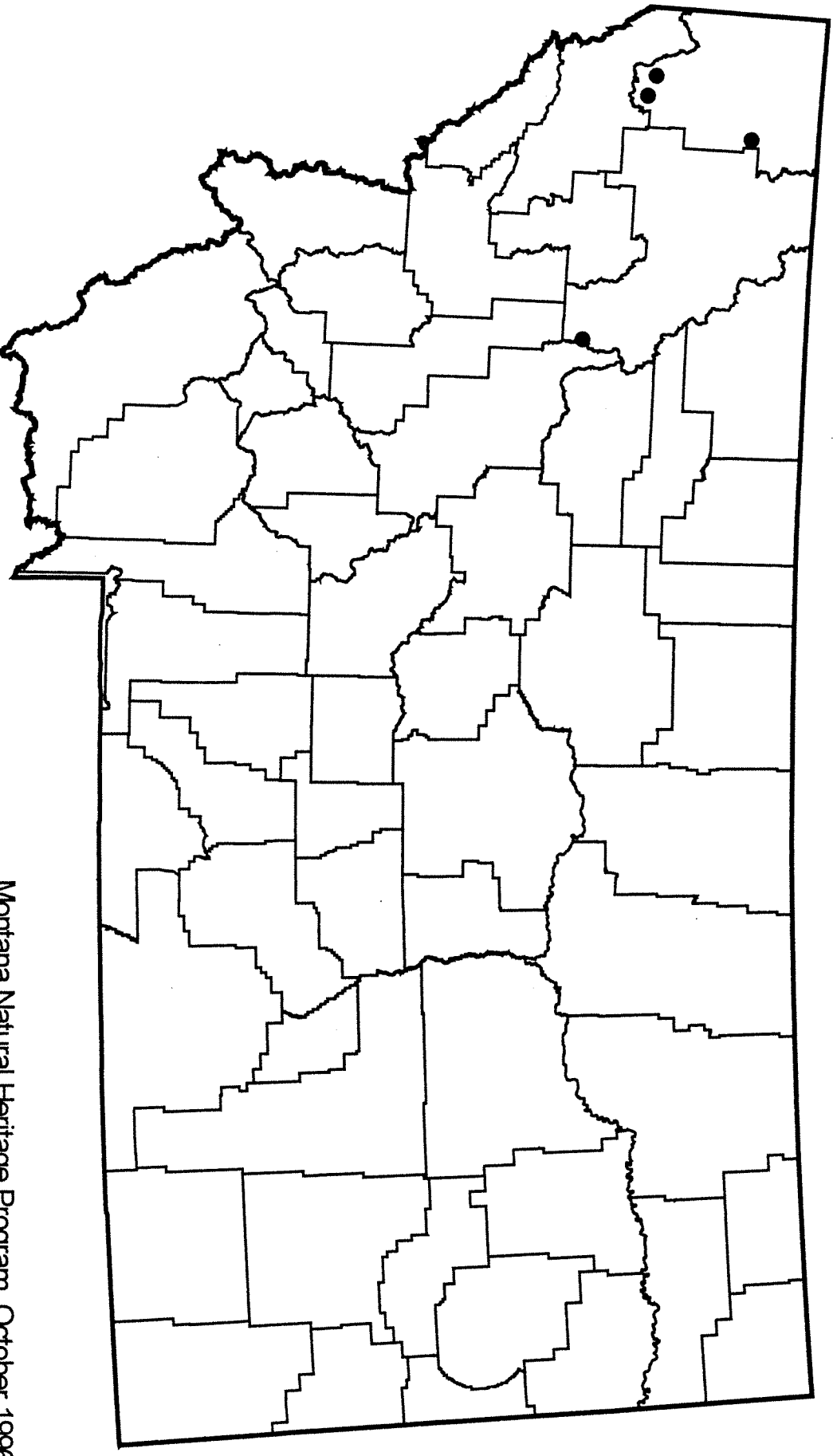
BOB MARSHALL WILDERNESS
KOOTENAI NATIONAL FOREST, FISHER RIVER RANGER DISTRICT
KOOTENAI NATIONAL FOREST, LIBBY RANGER DISTRICT
KOOTENAI NATIONAL FOREST, REXFORD RANGER DISTRICT
LEWIS & CLARK NATIONAL FOREST, ROCKY MOUNTAIN RANGER DISTRICT
STATE LAND - UNDESIGNATED

---REFERENCES---

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Montana Distribution
of

Botrychium ascendens (Upward-lobed Moonwort)



Montana Natural Heritage Program, October 1996

Botrychium crenulatum W.H. Wagner
(Wavy Moonwort)

Family: OPHIOGLOSSACEAE

Global rank: G3? USFS Region 1 status: SENSITIVE
State rank: S2 USFWS status:
 BLM status:

Description: Wavy moonwort is a small fern with a solitary stem 5-9 cm tall. Herbage is hairless and somewhat fleshy. Each stem has a pinnately divided sterile portion that resembles a stem leaf and is 1-2 cm long, with rounded lobes and wavy margins; fertile portion is 1-12 cm long, with small round spore sacs along the margins. Leaves appearing in mid to late spring, dying in late summer. May not appear at all in extremely dry years. Mature fronds in July.

Species are difficult to distinguish. B. CRENULATUM is intermediate between B. LUNARIA and B. MINGANENSE and is frequently misidentified as both. It is also similar to B. ASCENDENS. A technical key should be consulted for positive identification. Plants are small and easily overlooked.

Global range: CA, central AZ, NV, UT, ID, OR and nw. MT. Sparse.

State range: Cabinet Mtns., Salish Mtns., and Whitefish Range; also, Swan Valley.

Montana counties: Flathead, Granite, Lake, Lincoln, Sanders

Habitat: Moist soil, often along small streams or in seep areas, in western redcedar forest. Elev. 2440-7680 ft.

Land Ownership Summary:

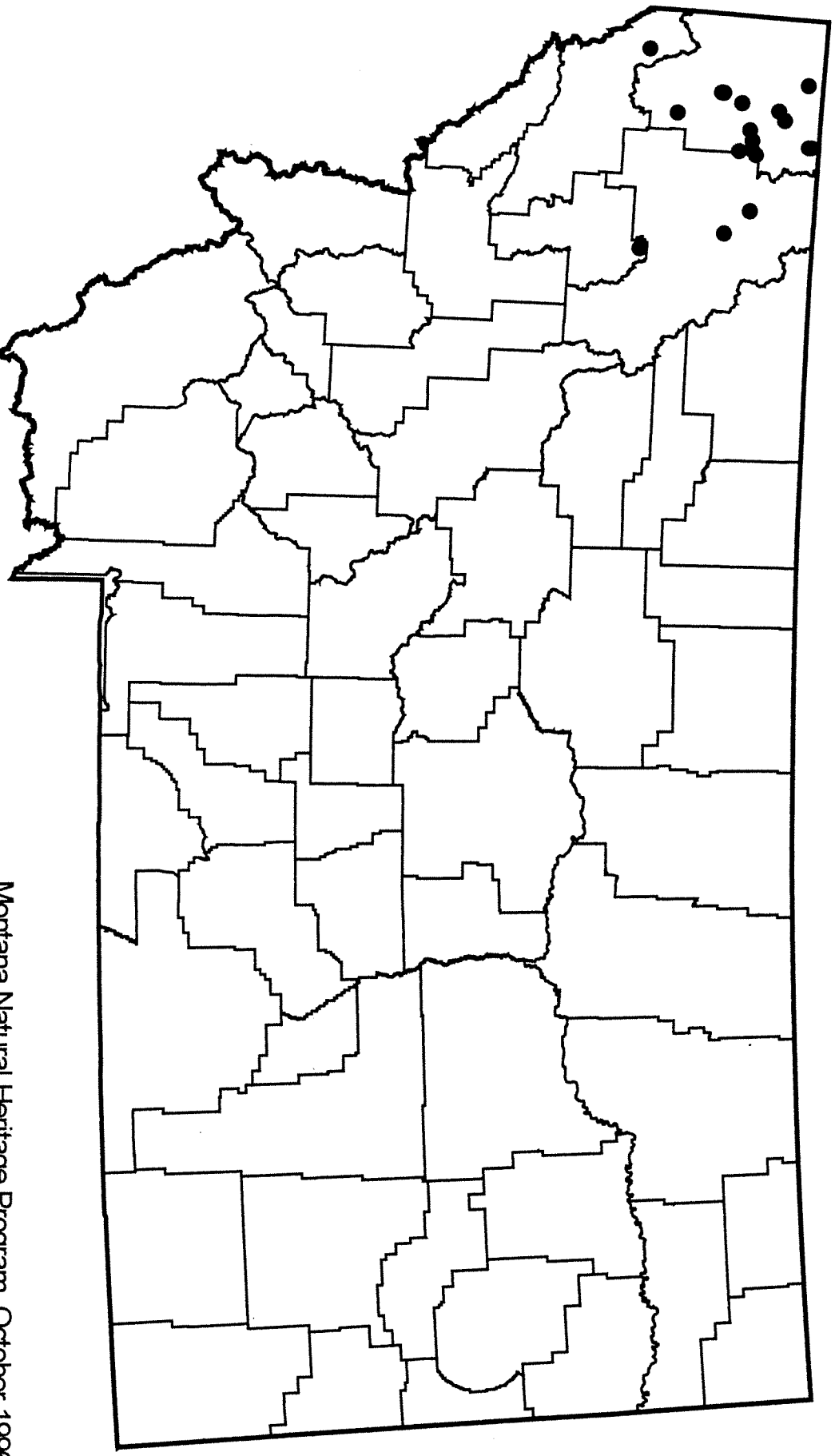
FLATHEAD NATIONAL FOREST, GLACIER VIEW RANGER DISTRICT
KOOTENAI NATIONAL FOREST, FISHER RIVER RANGER DISTRICT
KOOTENAI NATIONAL FOREST, FORTINE RANGER DISTRICT
KOOTENAI NATIONAL FOREST, LIBBY RANGER DISTRICT
KOOTENAI NATIONAL FOREST, REXFORD RANGER DISTRICT
KOOTENAI NATIONAL FOREST, THREE RIVERS RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
RICHARDS CONSERVATION EASEMENT
STATE LAND - UNDESIGNATED
TEN LAKES SCENIC AREA

---REFERENCES---

- Lesica, P. and K. Ahlenslager. 1989. Demographic monitoring of three species of BOTRYCHUM (Ophioglossaceae) in Waterton Lakes Park, Alberta. Unpublished 1989 progress report, 5 pp. plus appendices.
- Lesica, P. and K. Ahlenslager. 1994. Demographic monitoring of three species of BOTRYCHUM (Ophioglossaceae) in Waterton Lakes Park, Alberta. Unpublished report to the U.S. Fish and Wildlife Service. Montana Natural Heritage Program, Helena. 19 pp.
- Mantas, M. and R. S. Wirt. 1995. Moonworts of western Montana (BOTRYCHUM subgenus BOTRYCHUM). Flathead National Forest. 103 pp.
- Paris, C. A., F. S. Wagner and W. H. Wagner, Jr. 1989. Cryptic species, species delimitation, and taxonomic practice in the homosporous ferns. Amer. Fern J. 79:46-54.
- Wagner, D. H. 1992. Guide to the species of BOTRYCHUM in Oregon, November 1992. Unpublished report. USDA Forest Service. 19 pp., plus figures.
- Wagner, Jr., W. H. and F. S. Wagner. 1981. New species of moonworts, BOTRYCHUM subg. BOTRYCHUM (Ophioglossaceae), from North America. Amer. Fern J. 71:20-30.
- Wagner, Jr., W. H., F. S. Wagner, C. Haufler and J. K. Emerson. 1984. A new nothospecies of moonwort (Ophioglossaceae, BOTRYCHUM). Canadian Journal of Botany 62:629-634.

Montana Distribution
of

Botrychium crenulatum (Wavy Moonwort)



Montana Natural Heritage Program, October 1996

Botrychium hesperium (Maxon & Clausen) W.H. Wagner & Lellinger
(Western Moonwort)

Family: OPHIOGLOSSACEAE

Global rank: G3 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status:

Description: Western moonwort produces a single erect frond, 3-13 cm (1-5 in) high, divided into a sterile (trophophore) and a fertile (sporophore) section. The trophophore has a stalk, 0-4 mm long, and a broadly lance-shaped to triangular blade pinnately divided with 1-6 pairs of closely adjacent leaflets (pinnae). The basal pinnae are usually partly to wholly pinnately divided and larger and than the lobed or entire-margined upper ones. The sporophore is 2-3 times as long as the trophophore and 1-3 times pinnately divided into linear segments that bear the spores. Leaves appearing in mid-spring, dying in early fall. Mature fronds in June and July.

BOTRYCHIUM subgenus BOTRYCHIUM is a large group of very similar species, many of which have been recently described. A technical manual should be consulted for positive identification. The deeply pinnately lobed basal pinnae help separate this species from most others in our area.

Global range: Southwestern Alta., nw. MT, and central CO. Regional endemic.

State range: Anaconda Range, Lewis Range and Whitefish Range.

Montana counties: Deer Lodge, Flathead, Glacier

Habitat: Dry to moist, often gravelly, often lightly disturbed soil of grasslands, meadows and mid-succession gravel bars in the valleys and montane zone. Elev. 3200-8200 ft.

Land Ownership Summary:

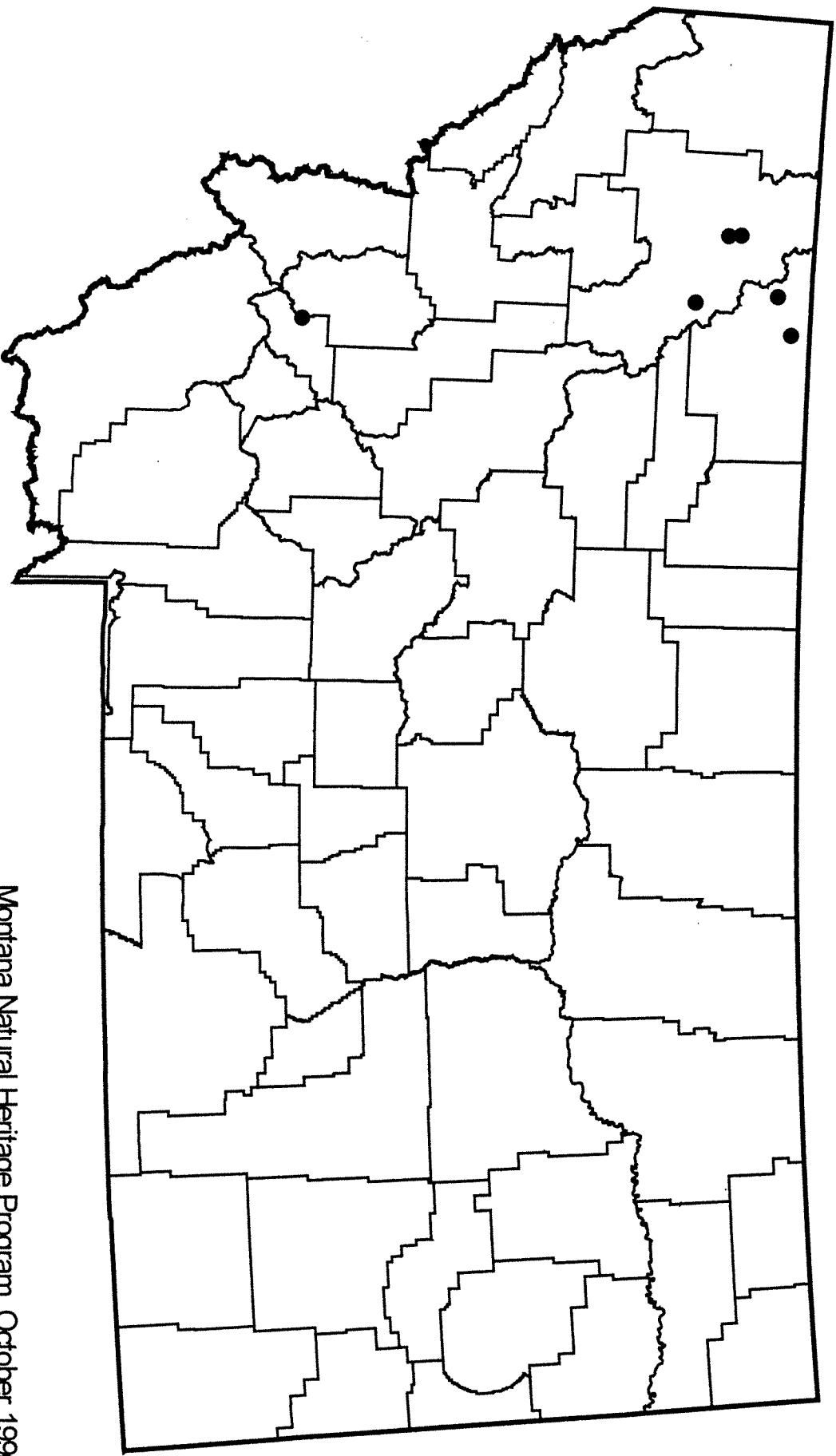
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, DEER LODGE RANGER DISTRICT
BLACKFEET INDIAN RESERVATION
FLATHEAD NATIONAL FOREST, GLACIER VIEW RANGER DISTRICT
GLACIER NATIONAL PARK

---REFERENCES---

- Ahlenslager, K. and P. Lesica. 1995. Observations of BOTRYCHIUM WATERTONENSE and its putative parent species, B. HESPERIUM and B. PARADOXUM. Draft manuscript prepared in cooperation with Waterton Lakes National Park, USFWS, and Montana Natural Heritage Program. 13 pp.
- Lesica, P. and K. Ahlenslager. 1994. Demographic monitoring of three species of BOTRYCHIUM (Ophioglossaceae) in Waterton Lakes Park, Alberta. Unpublished report to the U.S. Fish and Wildlife Service. Montana Natural Heritage Program, Helena. 19 pp.
- Lesica, P. and K. Ahlenslager. 1995. Demography and life history of three sympatric species of BOTRYCHIUM subg. BOTRYCHIUM in Waterton Lakes National Park, Alberta, Canada. Draft manuscript prepared in cooperation with Waterton National Park, U.S. Fish and Wildlife Service, and Montana Natural Heritage Program. 22 pp.
- Mantas, M. and R. S. Wirt. 1995. Moonworts of western Montana (BOTRYCHIUM subgenus BOTRYCHIUM). Flathead National Forest. 103 pp.
- Wagner, Jr., W. H. and F. S. Wagner. 1981. New species of moonworts, BOTRYCHIUM subg. BOTRYCHIUM (Ophioglossaceae), from North America. Amer. Fern J. 71:20-30.
- Wagner, Jr., W. H., F. S. Wagner, C. Haufler and J. K. Emerson. 1984. A new nothospecies of moonwort (Ophioglossaceae, BOTRYCHIUM). Canadian Journal of Botany 62:629-634.
- Wagner, W. and F. Wagner. 1986. Three new species of moonworts (BOTRYCHIUM subgenus BOTRYCHIUM) endemic in western North America. Amer. Fern J. 76(2):3347.

Montana Distribution
of

Botrychium hesperium (Western Moonwort)



Montana Natural Heritage Program, October 1996

Botrychium minganense Victorin
(Mingan Island Moonwort)

Family: OPHIOGLOSSACEAE

Global rank: G4 USFS Region 1 status: SENSITIVE
State rank: S2S3 USEFS status:
BLM status:

Description: Mingan Island moonwort has a solitary stem 4-28 cm tall. The yellow-green herbage is hairless and somewhat fleshy. Each stem has a sterile portion resembling a stem leaf and a fertile portion bearing spores; the sterile portion, 1-10 cm long, is pinnately divided into approximately five pairs of rounded lobes that are relatively remote from each other; the fertile portion, 1-15 cm long, is usually branched and bears clusters of spore sacs along the margin. Leaves appearing in spring through summer. Spores in August.

Species are difficult to distinguish. A technical key should be consulted for positive identification. Plants often occur beneath taller vegetation and can easily be overlooked.

Global range: NW Territories and Newfoundland, CA, AZ, CO, UT, WY, ID, MT, ND, WI, MI, NY. Sparse.

State range: Kootenai, Flathead and Clark Fork river drainages; also, Anaconda Range, Front Range, Lewis Range and Little Belt Mountains.

Montana counties: Cascade, Flathead, Glacier, Granite, Lake, Lincoln, Missoula, Teton

Habitat: Barren litter of moist, shaded, mature to old-growth cedar forests in the valleys and montane zones, but occasionally in open disturbed areas from valleys to near timberline. Elev. 2560-7480 ft.

Land Ownership Summary:

BEAVERHEAD-DEERLODGE NATIONAL FORESTS, PHILIPSBURG RANGER DISTRICT
CORPORATE TIMBERLANDS
FLATHEAD NATIONAL FOREST, HUNGRY HORSE RANGER DISTRICT
FLATHEAD NATIONAL FOREST, SWAN LAKE RANGER DISTRICT
FLATHEAD NATIONAL FOREST, TALLY LAKE RANGER DISTRICT
GLACIER NATIONAL PARK
KOOTENAI NATIONAL FOREST, CABINET RANGER DISTRICT
KOOTENAI NATIONAL FOREST, FISHER RIVER RANGER DISTRICT
KOOTENAI NATIONAL FOREST, FORTINE RANGER DISTRICT
KOOTENAI NATIONAL FOREST, LIBBY RANGER DISTRICT
KOOTENAI NATIONAL FOREST, REXFORD RANGER DISTRICT
KOOTENAI NATIONAL FOREST, THREE RIVERS RANGER DISTRICT
LEWIS & CLARK NATIONAL FOREST, KINGS HILL RANGER DISTRICT
LEWIS & CLARK NATIONAL FOREST, ROCKY MOUNTAIN RANGER DISTRICT
LOLO NATIONAL FOREST, NINEMILE RANGER DISTRICT
LOWER ROSS CREEK PROPOSED RESEARCH NATURAL AREA
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
RICHARDS CONSERVATION EASEMENT
ROSS CREEK CEDARS SCENIC AREA

---REFERENCES---

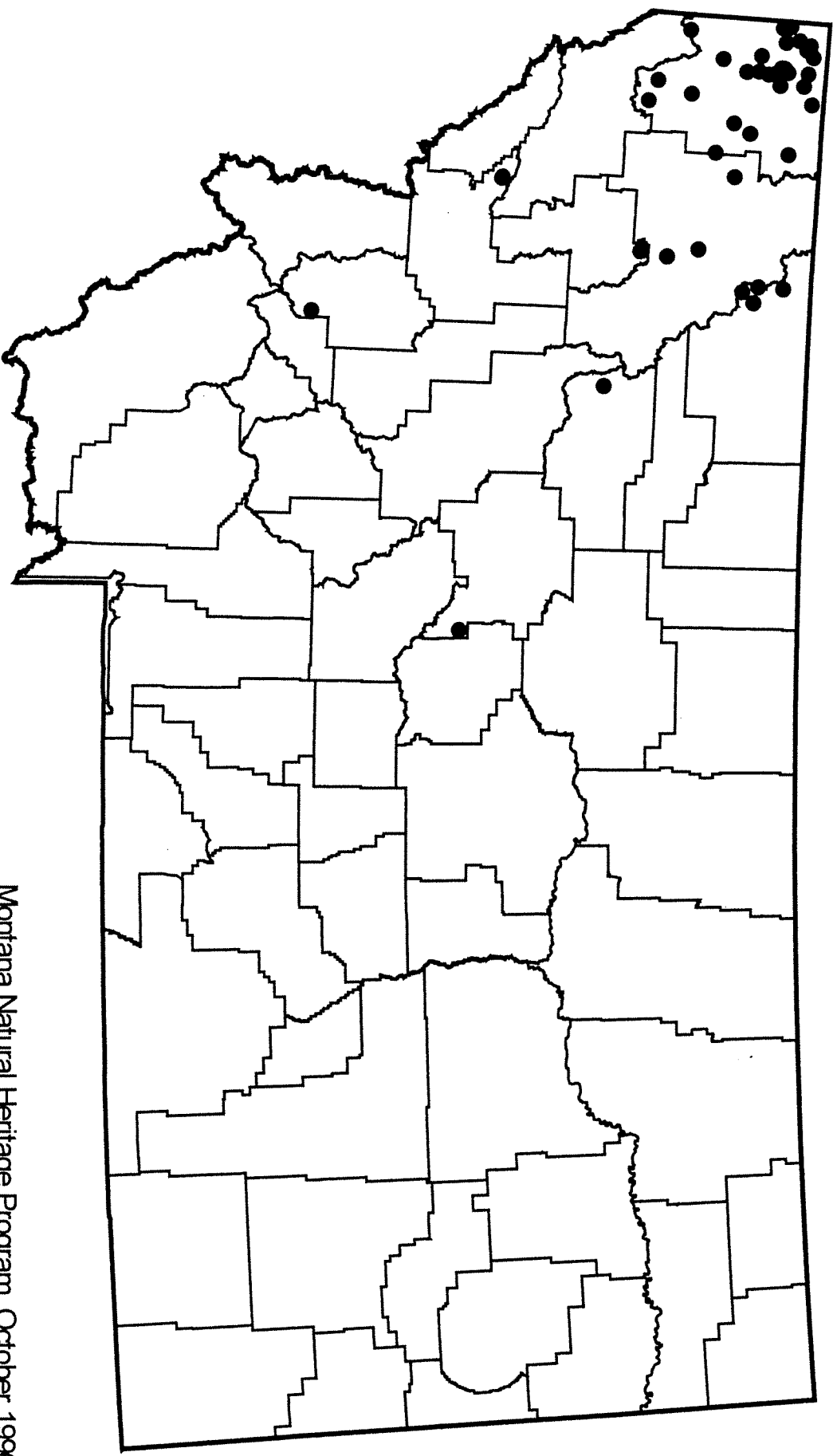
- Achuff, P. L. 1992. Status review of BOTRYCHIMUM MINGANENSE. Unpublished report to the Lolo National Forest, Montana. Montana Natural Heritage Program, Helena, MT. 26 pp.
- Caicco, S. L. 1987. Field investigations of selected sensitive plant species on the Idaho Panhandle National Forest. Idaho Natural Heritage Program, Idaho Department of Fish and Game, Boise, Idaho. 44 pp.
- Lesica, P. and K. Ahlenslager. 1994. Demographic monitoring of three species of BOTRYCHIMUM (Ophioglossaceae) in Waterton Lakes Park, Alberta. Unpublished report to the U.S. Fish and Wildlife Service. Montana Natural Heritage Program, Helena. 19 pp.

Mantas, M. and R. S. Wirt. 1995. Moonworts of western Montana (BOTRYCHIUM subgenus BOTRYCHIUM).
Flathead National Forest. 103 pp.

Wagner, D. H. 1992. Guide to the species of BOTRYCHIUM in Oregon, November 1992. Unpublished report.
USDA Forest Service. 19 pp., plus figures.

Montana Distribution
of

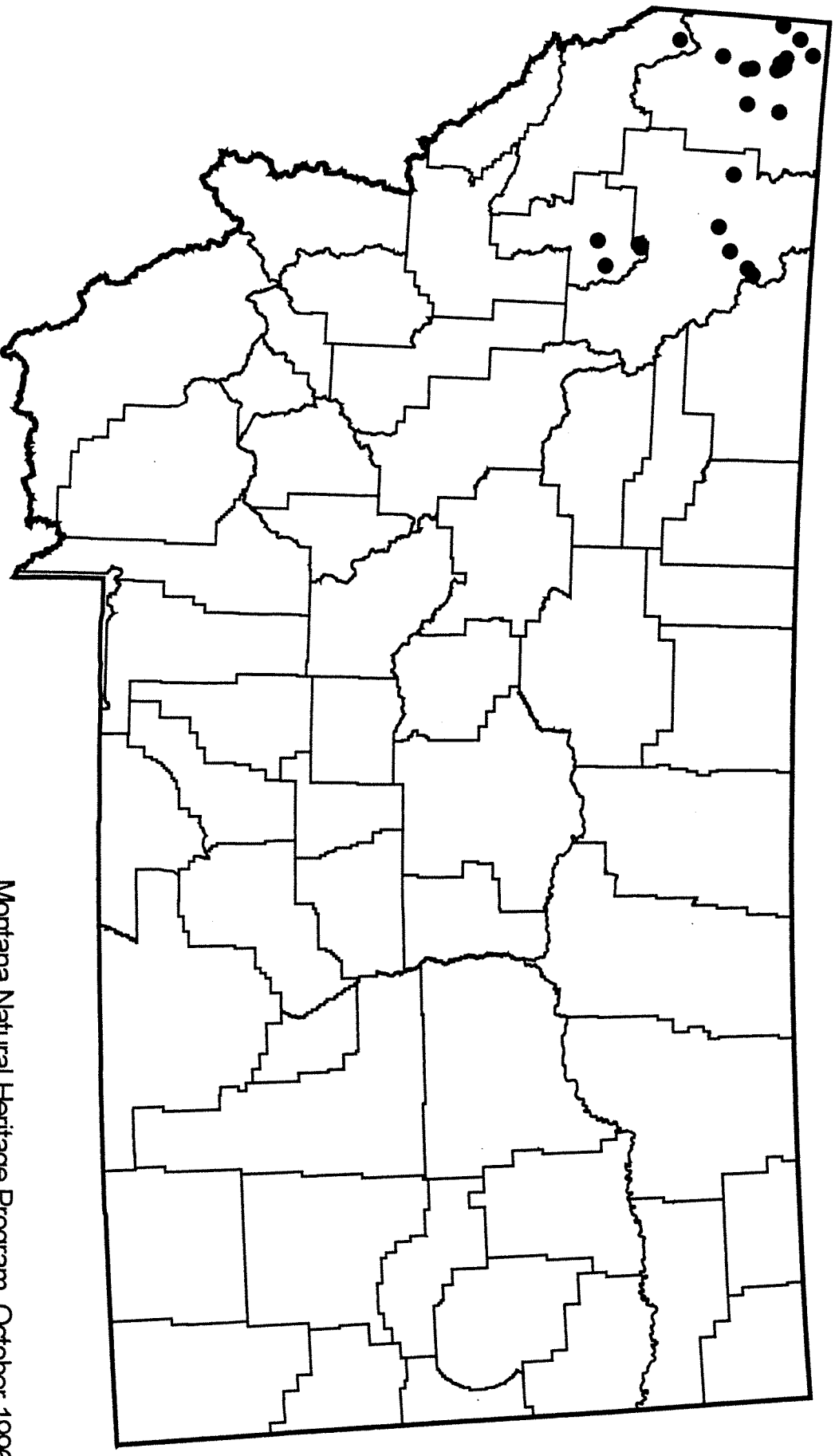
Botrychium minganense (Mingan Island Moonwort)



Montana Natural Heritage Program, October 1996

Montana Distribution
of

Botrychium montanum (Mountain Moonwort)



Montana Natural Heritage Program, October 1996

Botrychium paradoxum W.H. Wagner
(Peculiar Moonwort)

Family: OPHIOGLOSSACEAE

Global rank: G2 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status:

Description: Peculiar moonwort has a simple leafless stem that terminates in two narrow segments, both of which bear small round spore sacs along the margins. It does not have sterile leaves; herbage is glabrous and may be somewhat fleshy. Plants are 3-15 cm tall, the fertile segments are 1-6 cm long, and the spore sacs are about 1 mm in diameter.

This unusual species is the only fern in our area that has no sterile fronds or leaf-like segments. Other species of BOTRYCHIUM may have portions of their sterile fronds replaced by spore sacs.

Global range: Alberta, B.C., Saskatchewan, OR, WA, MT and UT. Sparse.

State range: Anaconda Range, Front Range, Lewis Range and Purcell Mtns.

Montana counties: Deer Lodge, Glacier, Granite, Lincoln, Pondera, Teton

Habitat: Mesic bunchgrass grasslands, meadows, and open forests in the montane and lower subalpine zones. Elev. 3720-8480 ft.

Land Ownership Summary:

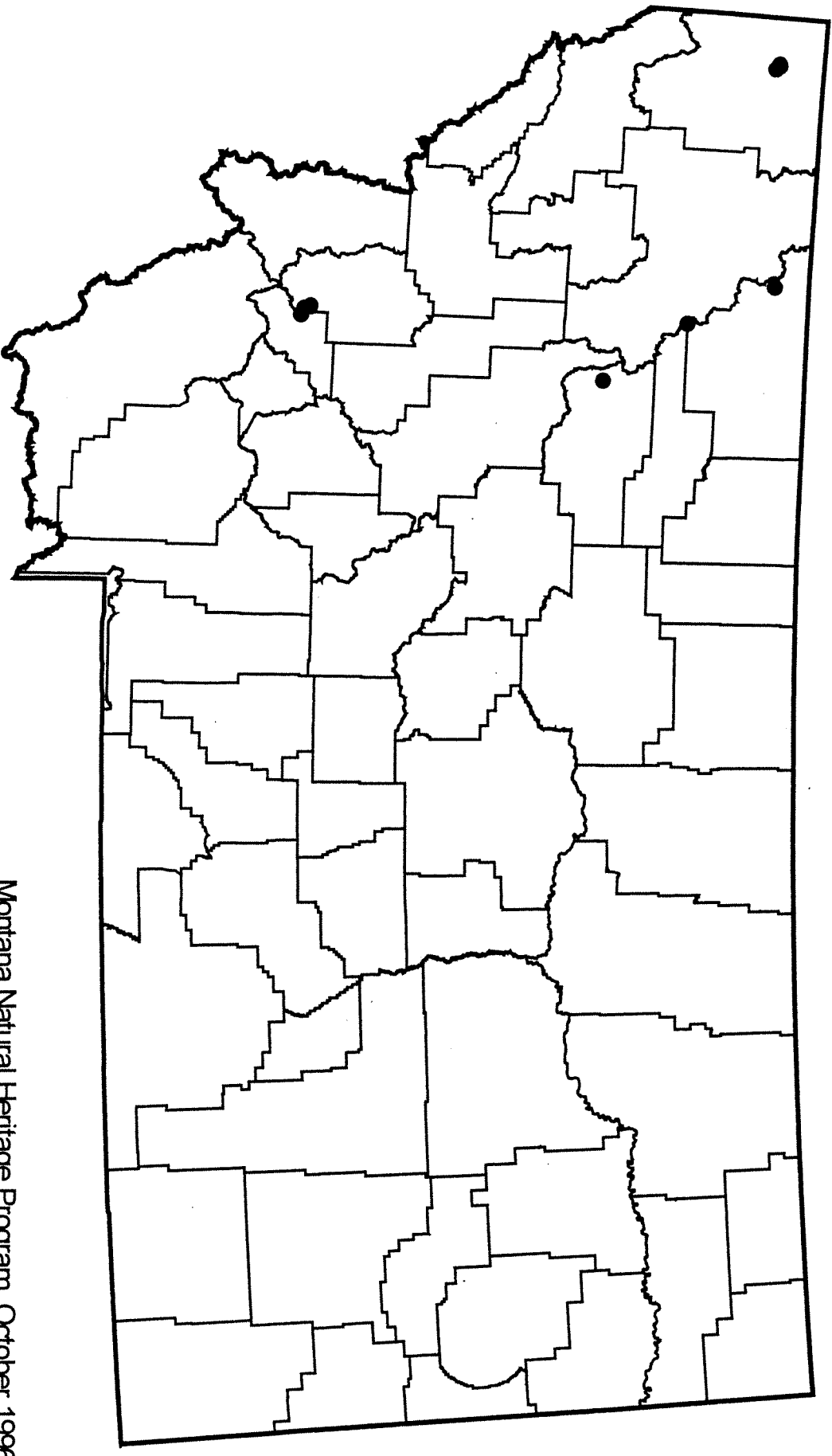
ANACONDA-PINTLER WILDERNESS
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, DEER LODGE RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, PHILIPSBURG RANGER DISTRICT
GLACIER NATIONAL PARK
KOOTENAI NATIONAL FOREST, THREE RIVERS RANGER DISTRICT
LEWIS & CLARK NATIONAL FOREST, ROCKY MOUNTAIN RANGER DISTRICT

---REFERENCES---

- Ahlenslager, K. and P. Lesica. 1995. Observations of BOTRYCHIUM WATERTONENSE and its putative parent species, B. HESPERIUM and B. PARADOXUM. Draft manuscript prepared in cooperation with Waterton Lakes National Park, USFWS, and Montana Natural Heritage Program. 13 pp.
- Lesica, P. and K. Ahlenslager. 1995. Demography and life history of three sympatric species of BOTRYCHIUM subg. BOTRYCHIUM in Waterton Lakes National Park, Alberta, Canada. Draft manuscript prepared in cooperation with Waterton National Park, U.S. Fish and Wildlife Service, and Montana Natural Heritage Program. 22 pp.
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- Wagner, D. H. 1992. Guide to the species of BOTRYCHIUM in Oregon, November 1992. Unpublished report. USDA Forest Service. 19 pp., plus figures.

Montana Distribution
of

Botrychium paradoxum (Peculiar Moonwort)



Montana Natural Heritage Program, October 1996

Botrychium spathulatum W.H. Wagner
(Spoon-leaf Moonwort)

Family: OPHIOGLOSSACEAE

Global rank: G3G4 USFS Region 1 status: PROPOSED SENSITIVE
State rank: S1 USFWS status:
 BLM status:

Description: Spoon-leaf moonwort produces a single erect frond, up to 12 cm (5 in) high divided into a sterile (trophophore) and a fertile (sporophore) section. The trophophore has a stalk, less than 1 mm long, and a narrowly triangular blade pinnately divided into 2-8 pairs of spoon-shaped, widely spaced, entire to lobed leaflets (pinnae). The sporophore is 1-2 times the length of the trophophore and 1-2 times pinnately divided into linear segments that bear the spores. Leaves appearing in late spring through early summer.

BOTRYCHIUM subgenus BOTRYCHIUM is a large group of very similar species in our area, many of which are newly described. A technical manual should be consulted for positive identification. This species is similar to B. MINGANENSE, B. ASCENDENS AND B. CRENULATUM, but the latter three have oval to fan shaped pinnae. BOTRYCHIUM LUNARIA is also similar but has pinnae that are closely adjacent.

Global range: AK to NW Territories, in n. Rocky Mtns. from B.C. and Alberta to nw MT. Ontario and MI, Quebec. Sparse.

State range: Swan Valley.

Montana counties: Lake

Habitat: Meadows and open forests, often in areas of moderate disturbance or sparsely vegetated soil in the valleys and montane zones. Elev. 3200- ft.

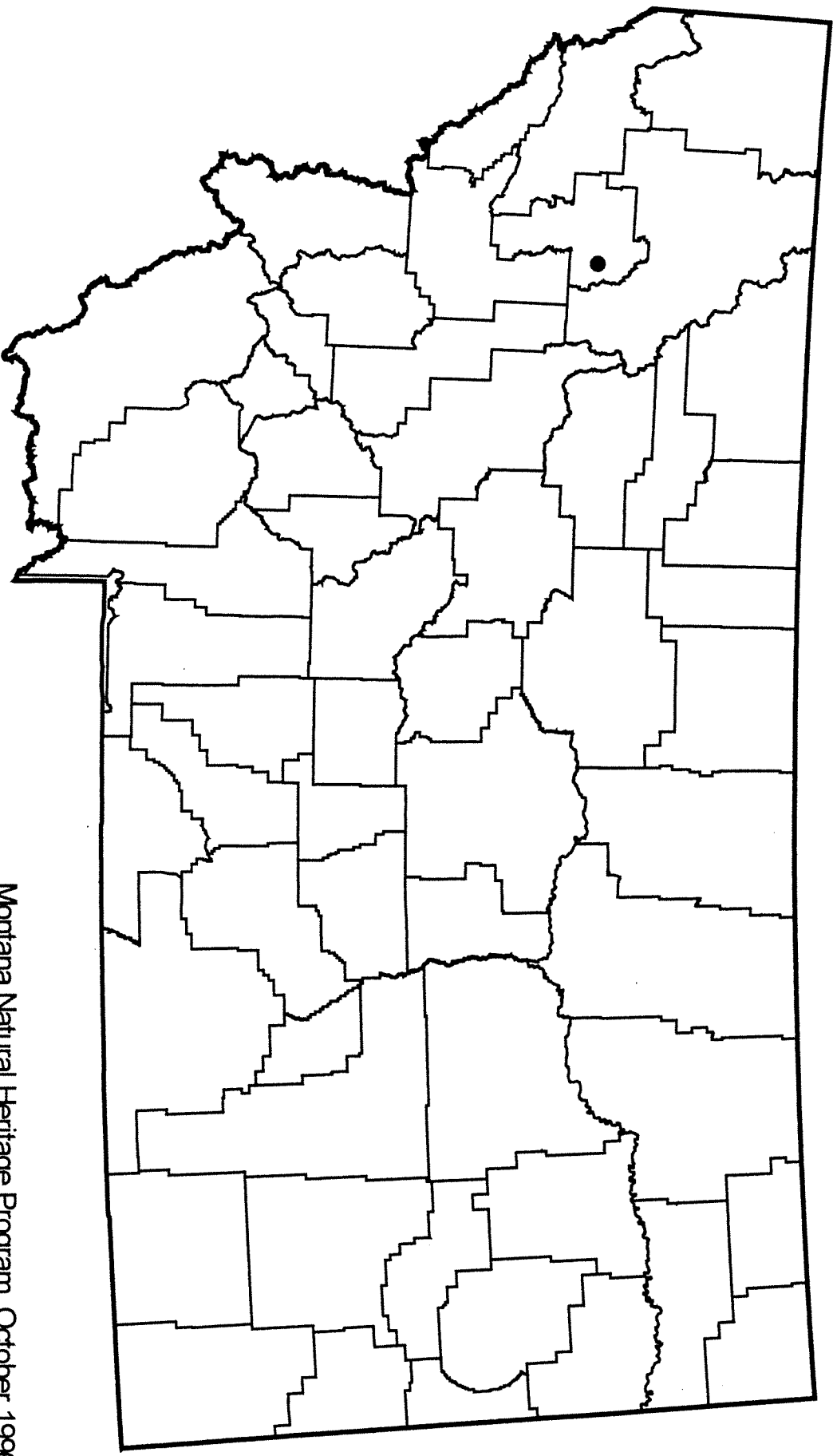
Land Ownership Summary:
CORPORATE TIMBERLANDS

---REFERENCES---

Mantas, M. and R. S. Wirt. 1995. Moonworts of western Montana (BOTRYCHIUM subgenus BOTRYCHIUM). Flathead National Forest. 103 pp.

Montana Distribution
of

Botrychium spathulatum (Spoon-leaf Moonwort)



Montana Natural Heritage Program, October 1996

Carex chordorrhiza Ehrh. ex L. f.
(Creeping Sedge)

Family: CYPERACEAE

Global rank: G5 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status:

Description: Creeping sedge is a perennial grass-like plant with single or few stems, 1-3 dm (20-40 in) tall, arising from creeping rhizomes. Old stems become elongate and prostrate. 1-3 leaves, 1-5 cm long, occur at the base of fertile stems. Non-flowering stems have longer leaves. Flowers are borne in 3-8, small, aggregated clusters (spikes) at the stem tips. Each spike has male flowers above and 1-5 female flowers (perigynia) below. The many-nerved, perigynia are egg-shaped and 2.5-3.5 mm long. The scales are broadly egg-shaped and the same length as the perigynia they subtend. There are 2 styles, and the seed (achene) is lens-shaped. Mature fruit in July.

The strict peatland habitat and small heads help distinguish this species. CAREX SIMULATA also occurs in mires but has smaller perigynia with more than 5 per spike. A hand lens and technical manual should be used for positive identification.

Global range: Circumboreal, south in N. America to NY, IN, IA, ND and MT.
Peripheral.

State range: Lewis Range, Whitefish Range, Salish Mtns.

Montana counties: Flathead, Lincoln, Powell

Habitat: Wet organic soil of SPHAGNUM fens in the montane zone. Elev. 3900-5280 ft.

Land Ownership Summary:

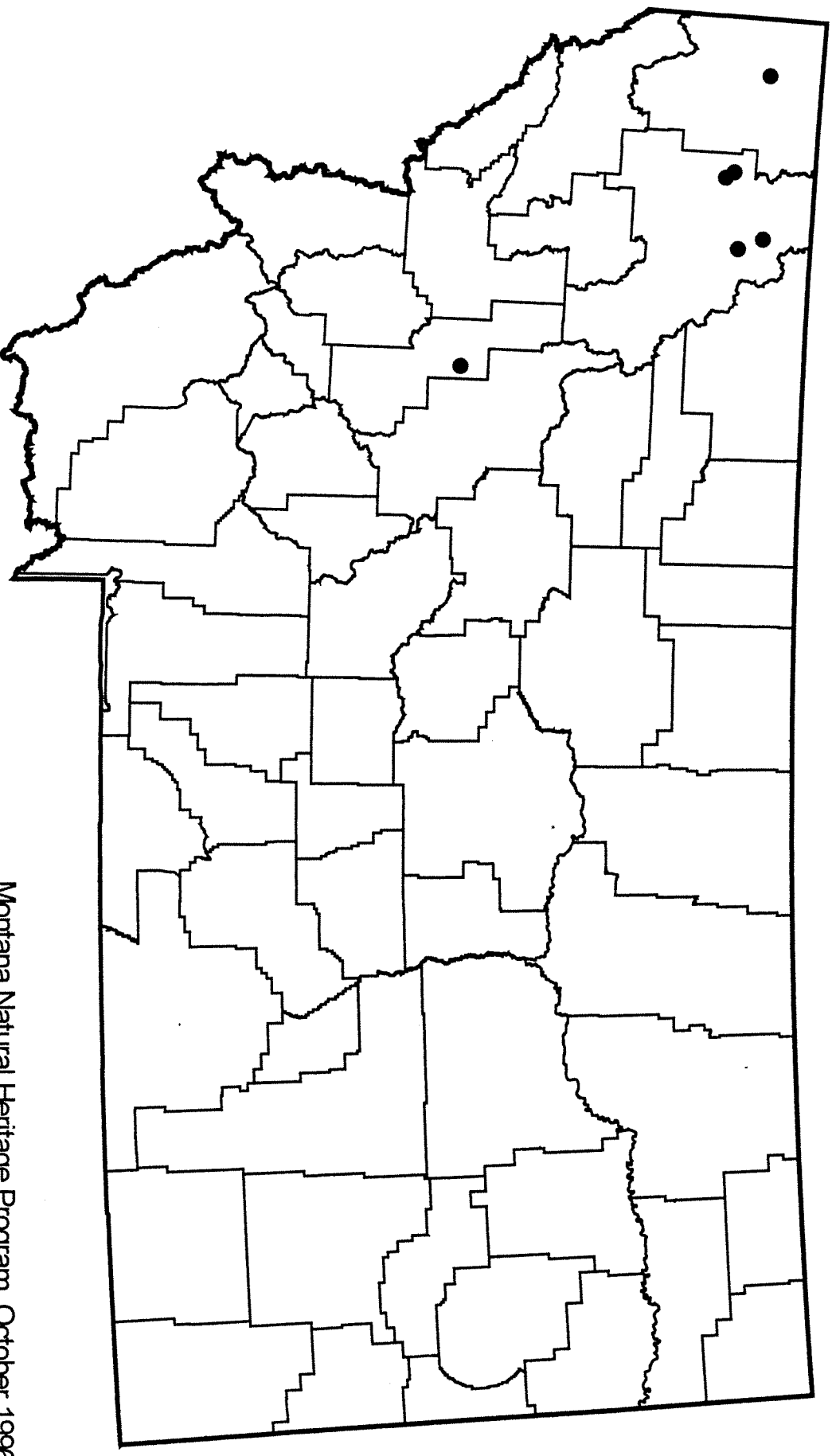
FLATHEAD NATIONAL FOREST, TALLY LAKE RANGER DISTRICT
GLACIER NATIONAL PARK
KOOTENAI NATIONAL FOREST, REXFORD RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

---REFERENCES---

Schuyler, A. E. 1980. CAREX CHORDORRHIZA in Glacier National Park, Montana. Rhodora 82:519.

Montana Distribution
of

Carex chordorrhiza (Creeping Sedge)



Montana Natural Heritage Program, October 1996

Carex livida (Wahlenb.) Willd.
(Pale Sedge)

Family: CYPERACEAE

Global rank: G5 USFS Region 1 status: SENSITIVE
State rank: S2 USEWS status:
BLM status:

Description: Pale sedge occurs in small clumps arising from long, slender rhizomes, and has flowering stems up to 20 cm tall. Leaves are clustered on the lower third of the stem; they have a thin pale-bluish waxy coating, and are 1-4 mm wide with long-pointed tips. Inflorescence consists of 2-3(4) loosely clustered spikes; the narrow terminal spike is 7-30 mm long and composed entirely of male flowers (indicated by the presence of stamens), or with a few fruits borne at the top; lower spikes are composed entirely of female flowers (indicated by the presence of fruit), and are borne on short stalks; the uppermost leaf (bract) just below the lowest spike usually exceeds the uppermost spike; scales that make up the spikes are light or dark brown with a green midvein. The perigynia (fruits) are 2-4 mm long, pale green and glabrous, and elliptic or ovate in outline with a short beak at the tip; enclosed seed is triangular in cross section. Mature fruit in late June to early August.

CAREX is a very large and difficult genus. Specimens with mature fruit are necessary for positive identification. In its bog habitat, *C. LIVIDA* is best distinguished by its relatively short stature and glaucous (bluish, waxy) foliage.

Global range: Circumboreal, south in N. America to WA, MT, MI and NY, disjunct in CA. Peripheral.

State range: Lewis Range, Mission Mtns., Salish Mtns., Swan Range and Front Range.

Montana counties: Flathead, Glacier, Lake, Lewis and Clark, Missoula, Powell, Teton

Habitat: Wet organic soils of fens in the foothill and montane zones. Elev. 2910-6030 ft.

Land Ownership Summary:

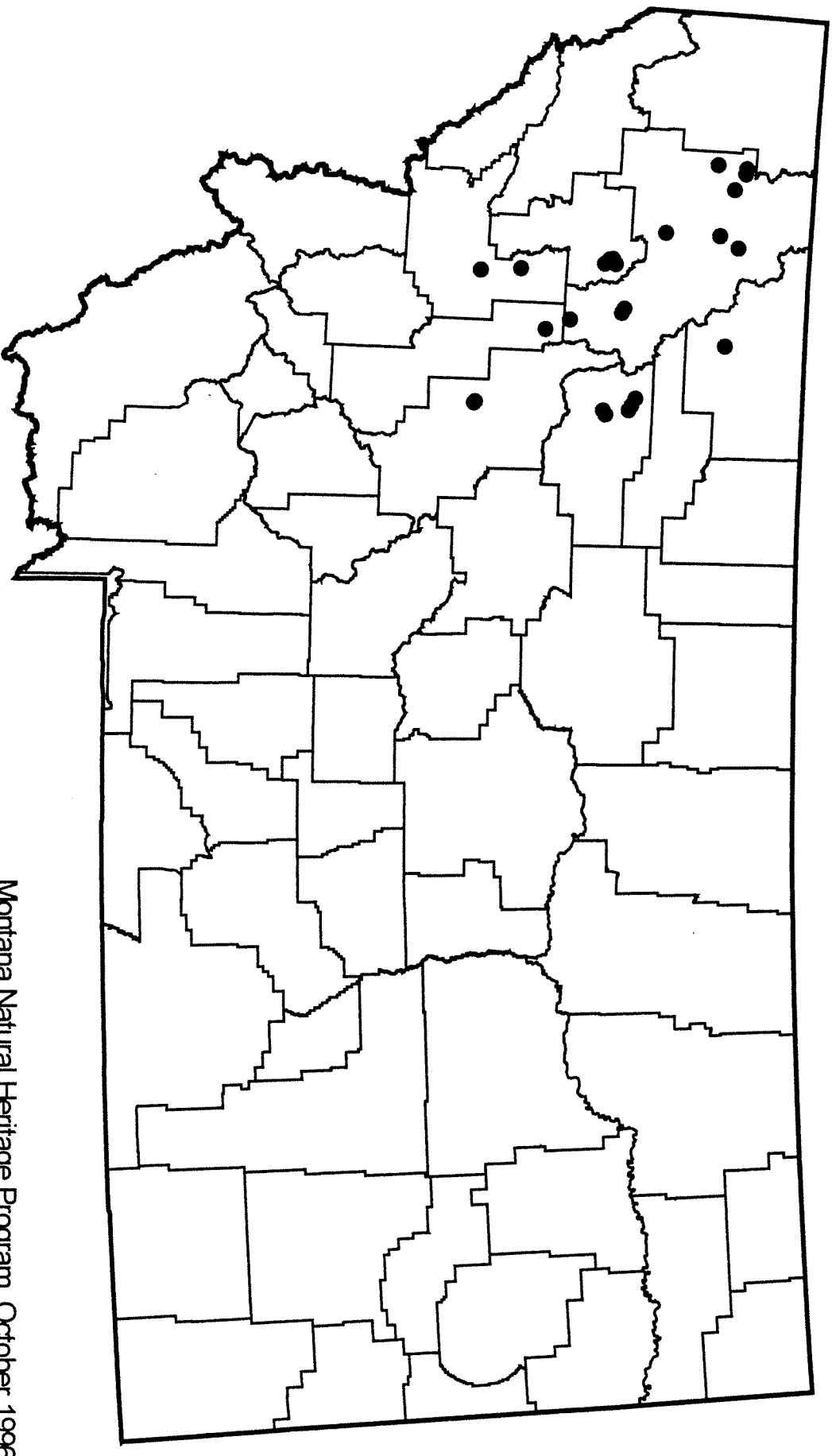
BLACKFEET INDIAN RESERVATION
BOB MARSHALL WILDERNESS
CORPORATE TIMBERLANDS
ELK MEADOW BOTANICAL AREA
FLATHEAD INDIAN RESERVATION
FLATHEAD NATIONAL FOREST, GLACIER VIEW RANGER DISTRICT
FLATHEAD NATIONAL FOREST, SPOTTED BEAR RANGER DISTRICT
FLATHEAD NATIONAL FOREST, SWAN LAKE RANGER DISTRICT
FLATHEAD NATIONAL FOREST, TALLY LAKE RANGER DISTRICT
GLACIER NATIONAL PARK
HELENA NATIONAL FOREST, LINCOLN RANGER DISTRICT
INDIAN MEADOWS PROPOSED RESEARCH NATURAL AREA
LEBEAU PROPOSED RESEARCH NATURAL AREA
LOLO NATIONAL FOREST, SEELEY LAKE RANGER DISTRICT
MISSION MOUNTAINS WILDERNESS
PINE BUTTE SWAMP PRESERVE
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
STATE LAND - UNDESIGNATED
SWAN RIVER PROPOSED RESEARCH NATURAL AREA
SWAN RIVER STATE FOREST

---REFERENCES---

- Caicco, S. L. 1987. Field investigations of selected sensitive plant species on the Idaho Panhandle National Forest. Idaho Natural Heritage Program, Idaho Department of Fish and Game, Boise, Idaho. 44 pp.
- Lesica, P. 1986. Vegetation and flora of Pine Butte Fen, Teton County, Montana. Great Basin Naturalist 46:22-32.
- Lesica, P. 1991. The rare vascular plants of Pine Butte Preserve. Unpublished report to The Nature Conservancy, Montana Field Office, Helena. 15 pp.

Montana Distribution
of

Carex livida (Pale Sedge)



Montana Natural Heritage Program, October 1996

Carex parryana ssp *idahoensis* Bailey
(Idaho Sedge)

Family: CYPERACEAE

Global rank:	G2Q	USFS Region 1 status:	SENSITIVE
State rank:	S2	USFWS status:	
		BLM status:	SENSITIVE

Description: Idaho sedge forms small clumps that arise from short rhizomes. The stems are 20-35 cm (8-14 in) high with most leaves crowded near the base. Leaves are flat and 2-4 mm wide. Flowers are clustered in 3 (usually) oblong-cylindrical spikes, 1-3 cm (0.5-1 in) long, with the uppermost larger than the others. Male flowers are absent or scattered among the female flowers (perigynia) on the largest spike. Spikes form a narrow, interrupted head, subtended by small leaf-like bracts, at the top of the stems. The narrowly oval scales subtending each perigynia taper to the tip and are 2-3 times longer than the perigynia. These scales are brown with membranous margins and a distinct pale center. Glabrous, egg-shaped perigynia are yellow-green and ca. 3 mm long with a short beak. There are 3 stigmas and the seed is 3-sided. Mature fruit in July and August

The large terminal spike and the long, female scales that are at least twice as long as the perigynia are distinctive and separate this plant from the other varieties of *C. PARRYANA*. However, *CAREX* is a large and difficult genus. A hand lens or microscope and technical key are essential for positive determination.

Global range: Southwest MT and adjacent ID. The range of the species is B.C. to Man., south to CO and VT. Regional endemic.

State range: Beaverhead Mtns., Centennial Mtns., Highland Mtns., Tendoy Mtns., and West Pioneer Mtns.

Montana counties: Beaverhead, Madison, Powell, Silver Bow

Habitat: Moist meadows around seeps, ponds or streams, usually associated with calcareous parent materials in the foothills to montane zone. Elev. 6100-8200 ft.

Land Ownership Summary:

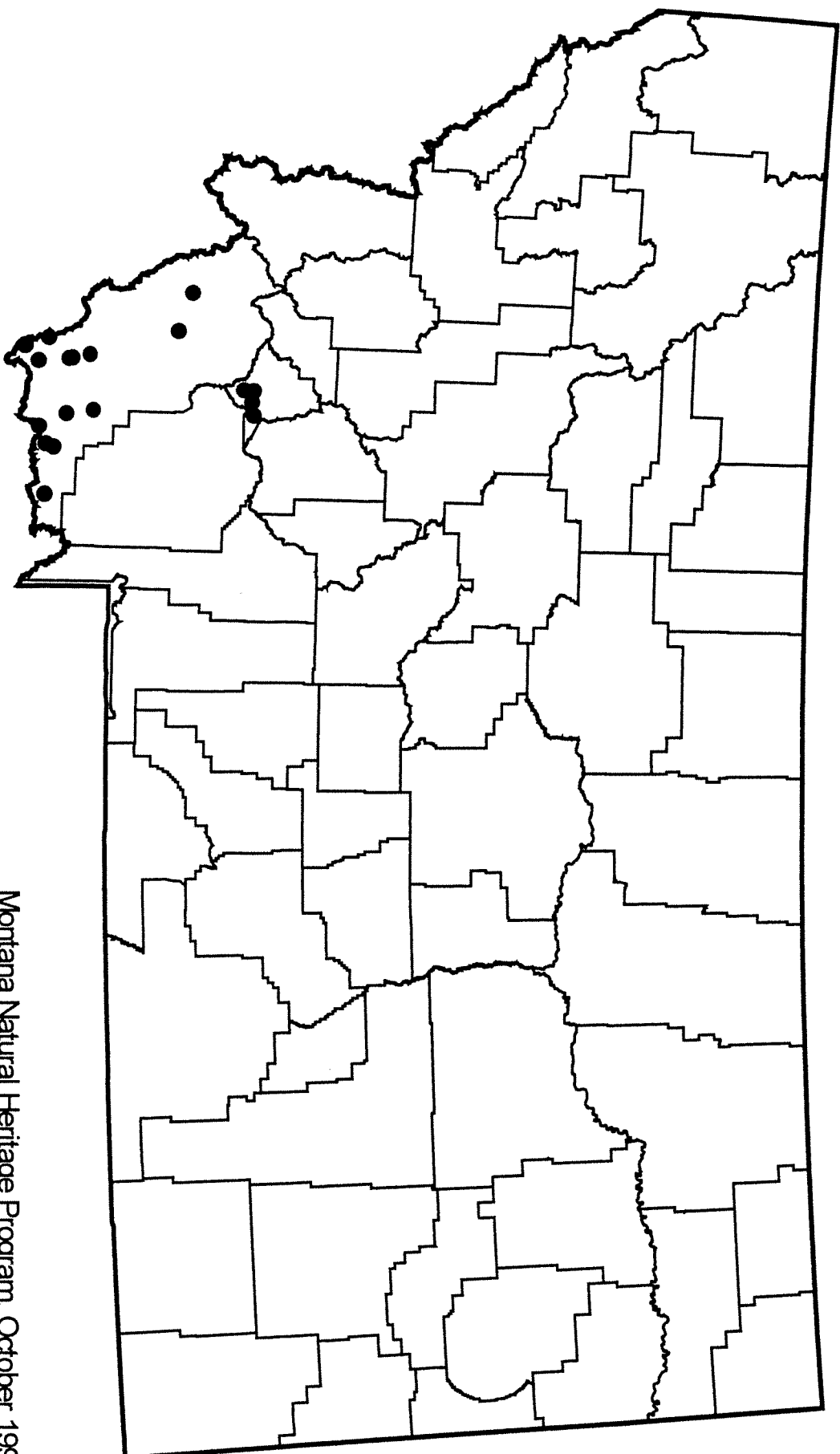
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, BUTTE RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, DILLON RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, JEFFERSON RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, WISDOM RANGER DISTRICT
BLM: BUTTE DISTRICT, DILLON RESOURCE AREA
BLM: BUTTE DISTRICT, HEADWATERS RESOURCE AREA
CENTENNIAL MOUNTAINS PRIMITIVE AREA
HUMBUG SPIRES PRIMITIVE AREA
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
RED ROCK LAKES NATIONAL WILDLIFE REFUGE
RED ROCK LAKES WILDERNESS
STATE LAND - UNDESIGNATED
U.S. SHEEP EXPERIMENT STATION

---REFERENCES---

- Davis, Ray J. 1952. Flora of Idaho. Brigham Young University Press, Provo, Utah. 836 p.
- Lowry, P. P., II. 1979. Vascular plants of the Humbug Spires instant study area, Silver Box County, Montana. Bureau of Land Management, Butte District. [Unpublished report]. 41 pp.
- Vanderhorst, J. P. and P. Lesica. 1994. Sensitive plant survey in the Tendoy Mountains, Beaverhead County, Montana. Unpublished report to the Bureau of Land Management, Butte District. Montana Natural Heritage Program, Helena. 59 pp. plus appendices.

Montana Distribution
of

Carex parryana ssp *idaho*a (Idaho Sedge)



Montana Natural Heritage Program, October 1996

Carex paupercula
(Poor Sedge)

Family: CYPERACEAE

Global rank: G5 USFS Region 1 status: SENSITIVE
State rank: S2S3 USFWS status:
 BLM status:

Description: Poor sedge forms small clusters on short or long rhizomes, and has flowering stems up to 40 cm tall that are conspicuously clothed at the base with the dried leaves of the previous year. The leaves are mostly flat, 2-4 mm wide, and confined to the lower half of the stem. The inflorescence consists of a narrow terminal spike of male flowers (indicated by the presence of anthers), and usually 2-3 mainly female spikes (indicated by the presence of fruits), the lower of which are nodding on long stalks; the terminal spike is 4-12 mm long and 2-4 mm wide; the lower spikes are 4-22 mm long and 4-8 mm wide, and often have a few male flowers at the base; the uppermost leaf (bract) subtending the lowest spike is slightly longer than the terminal spike; the scales which make up the spikes are light or dark brown, often with a greenish midvein. The perigynia (fruit) are pale green, glabrous, oval in outline, and 2-3 mm long; the enclosed seed is triangular in cross-section. Mature fruit from July through September.

CAREX is a large and difficult genus. Specimens with mature fruit are necessary for positive identification. In its bog habitat, this species occurs with, and can be easily confused with C. LIMOSA. The latter usually has a few male flowers at the top of the lower spikes, while C. PAUPERCULA will have them at the base of the spikes.

Global range: Circumboreal, south in N. America to WA, ID, UT and CO.
Peripheral.

State range: Clark Fork, Flathead, Kootenai and Bitterroot river drainages;
also Front Range.

Montana counties: Flathead, Lake, Lincoln, Missoula, Ravalli, Teton

Habitat: Nutrient-poor fens, often with SPHAGNUM moss, in the montane zone. Elev.
3000-7000 ft.

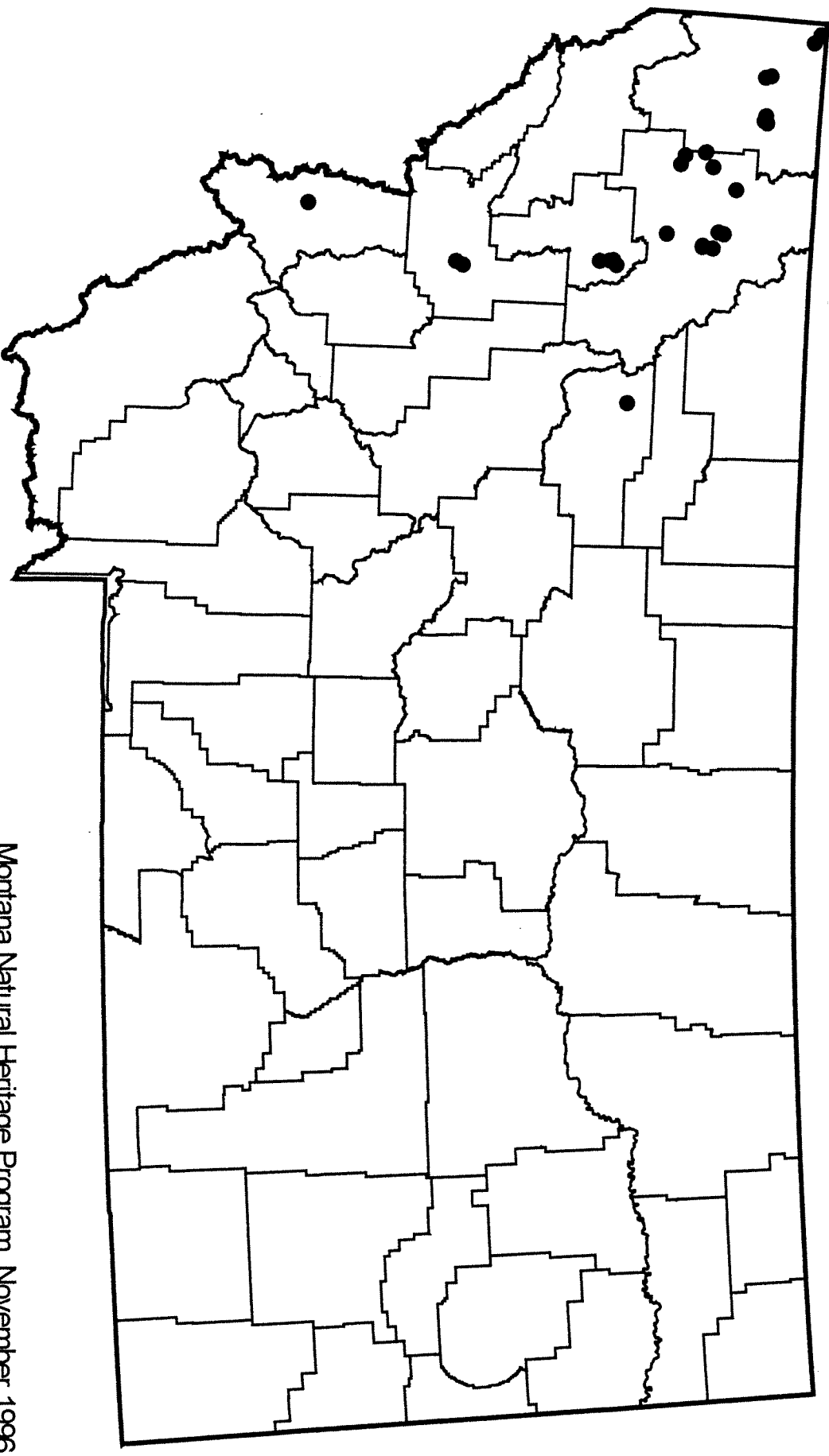
Land Ownership Summary:

BITTERROOT NATIONAL FOREST, DARBY RANGER DISTRICT
BLACKLEAF WILDLIFE MANAGEMENT AREA
CORPORATE TIMBERLANDS
FLATHEAD NATIONAL FOREST, GLACIER VIEW RANGER DISTRICT
FLATHEAD NATIONAL FOREST, HUNGRY HORSE RANGER DISTRICT
FLATHEAD NATIONAL FOREST, SWAN LAKE RANGER DISTRICT
FLATHEAD NATIONAL FOREST, TALLY LAKE RANGER DISTRICT
KOOTENAI NATIONAL FOREST, REXFORD RANGER DISTRICT
KOOTENAI NATIONAL FOREST, THREE RIVERS RANGER DISTRICT
LOLO NATIONAL FOREST, MISSOULA RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
RATTLESNAKE NATIONAL RECREATION AREA
SHEEP MOUNTAIN BOG RESEARCH NATURAL AREA
SWAN RIVER PROPOSED RESEARCH NATURAL AREA
SWAN RIVER STATE FOREST

---REFERENCES---

Montana Distribution of

Carex paupercula (Poor Sedge)



Montana Natural Heritage Program, November 1996

Castilleja covilleana Henderson
(Coville Indian Paintbrush)

Family: SCROPHULARIACEAE

Global rank: G3G4 USFS Region 1 status: SENSITIVE
State rank: S2 USFWS status:
 BLM status:

Description: Coville Indian-paintbrush is a perennial with clusters of several unbranched, erect or ascending stems up to 30 cm tall. The leaves, all except the lowermost ones, are deeply divided into 3-7 spreading, linear lobes, and are alternate on the stem; the herbage is covered with long, soft hairs. The inflorescence is usually bright red or scarlet, but may be orange or even red; it is short and compact at first, but elongates greatly at maturity; the colored flower bracts are deeply 5-7 parted, and at least as long as the flowers; the corolla is 20-35 mm long, and the hooded upper lip is 1/2-2/3 the length of the tubular portion; the calyx is 15-25 mm long, and more deeply divided above than below. Flowering late June to early August.

This species can be told from other red paintbrushes in its range by the covering of long, soft hairs (rather than stiff and straight), and the middle leaf segments that are almost as narrow as the lateral segments.

Global range: Central ID and adjacent MT. Regional endemic.

State range: Bitterroot Mtns.

Montana counties: Ravalli

Habitat: Stony soil of slopes and summits in the montane and subalpine zones. Elev. 4600-8700 ft.

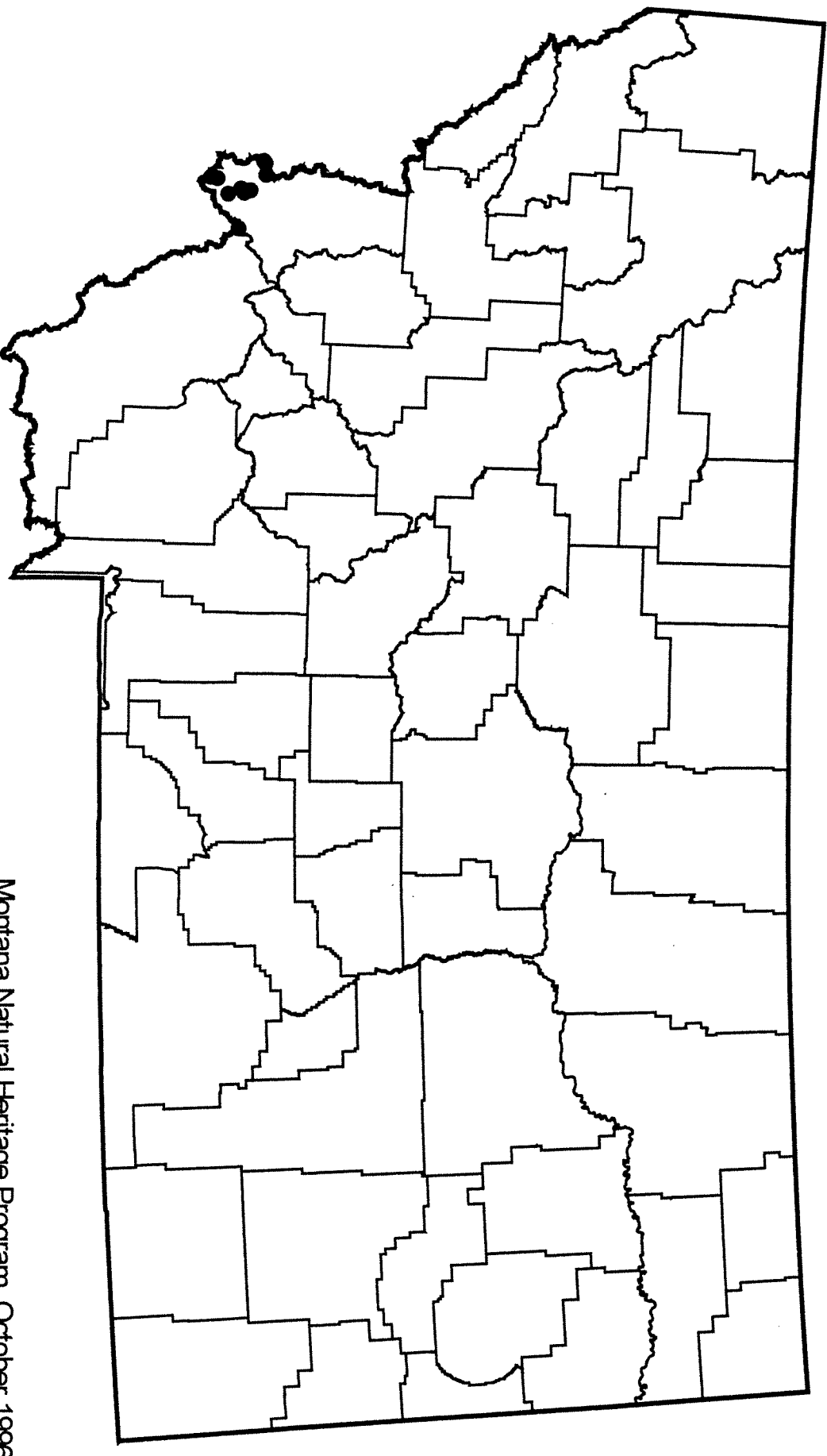
Land Ownership Summary:

BITTERROOT NATIONAL FOREST, SULA RANGER DISTRICT
BITTERROOT NATIONAL FOREST, WEST FORK RANGER DISTRICT
PAINTED ROCKS STATE RECREATION SITE
SELWAY-BITTERROOT WILDERNESS

---REFERENCES---

Montana Distribution
of

Castilleja covilleana (Coville Indian Paintbrush)



Montana Natural Heritage Program, October 1996

Castilleja gracillima Rydb.
(Slender Indian Paintbrush)

Family: SCROPHULARIACEAE

Global rank: G3G4 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status: WATCH

Description: Slender paintbrush is a perennial with slender, erect or ascending, usually unbranched stems, 20-50 cm tall, that often root at the base. The entire-margined leaves are narrowly lance-shaped, and the foliage is glabrous or covered with long, soft hairs. The inflorescence is generally yellow, but may be orange or even red; the oblong flower bracts are entire-margined or may have a single pair of small lobes near the top; the calyx is 15-22 mm long and deeply divided into two lobes at the top that are each divided again into two smaller, pointed lobes; the petals of the flower are united into a tube below that forms a large, hood-shaped upper portion (galea) and three small lobes or teeth (lip) opposite it; the entire corolla is 20-30 mm long; the galea is densely hairy and less than half as long as the tube, while the lip is green and ca. 1/5 the length of the galea. Flowering June to August.

CASTILLEJA is a very difficult group in our area, and a technical key should be consulted for positive identification. Unlike other species of CASTILLEJA, stems of C. GRACILLIMA often arise singly. The combination of the creeping habit, yellow inflorescence, entire leaves, and galea that is more than 1/2 the length of the corolla tube will usually distinguish this species.

Global range: Nw. WY and adjacent MT to c. ID, and possibly e. B.C. Regional endemic.

State range: Madison Range; one collection from Tobacco Root Mtns. is dubious.

Montana counties: Gallatin, Madison, Park, Yellowstone National Park

Habitat: Wet meadows and stream banks. Elev. 6200-7000 ft.

Land Ownership Summary:

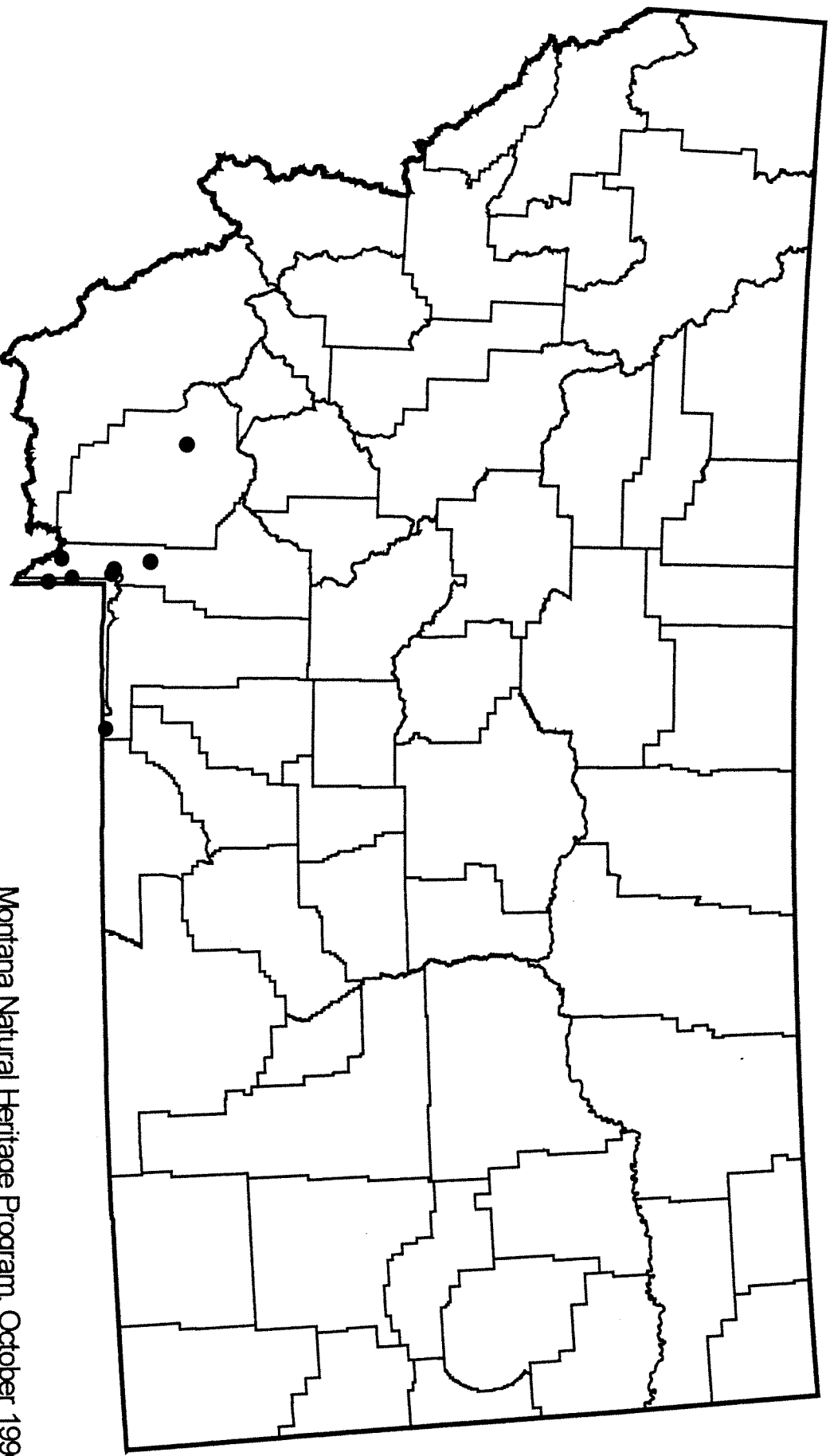
GALLATIN NATIONAL FOREST, BOZEMAN RANGER DISTRICT
GALLATIN NATIONAL FOREST, GARDINER RANGER DISTRICT
GALLATIN NATIONAL FOREST, HEBGEN LAKE RANGER DISTRICT
GALLATIN WILDLIFE MANAGEMENT AREA
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
YELLOWSTONE NATIONAL PARK

---REFERENCES---

- Mathews, S. 1989. Sensitive plant surveys: 1989, U.S. Forest Service, Region 1, Gallatin National Forest, Montana. Unpublished report to the USDA Forest Service, Gallatin National Forest, Bozeman, Montana. Montana Natural Heritage Program, Helena. 85 pp.
- Vanderhorst, J. and B. L. Heidel. 1995. Sensitive plant survey in the Tobacco Root Mountains, Madison County, Montana. Unpublished report to the Beaverhead and Deerlodge National Forests. Montana Natural Heritage Program. Helena, MT. 66 pp. plus appendices.

Montana Distribution
of

Castilleja gracillima (Slender Indian Paintbrush)



Montana Natural Heritage Program, October 1996

Chrysothamnus parryi ssp *montanus* L.C. Anders.
(Centennial Rabbitbrush)

Family: ASTERACEAE

Global rank: G5T1 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status:

Description: Centennial rabbitbrush is a highly branched, low shrub, 1-3 dm (4-12 in) high. The alternate leaves, 20-35 mm (ca. 1 in) long, are linear with entire margins. Stems have a thick covering of white hairs, and the leaves are glabrous with a sticky varnish-like coating. 1-few flower heads are borne at the branch tips surrounded by upper stem leaves. Each head, 10-12 mm high, has 13-17 lance-shaped involucre bracts in 3-4 overlapping series and 4-12 yellow disk corollas, 9-10 mm long. Ray flowers are lacking. The hairy seeds, ca. 8 mm long, have numerous thin bristles on top (pappus). Flowering in August and September.

This plant has the white stems of *C. NAUSEOSUS* and the varnished-like foliage typical of *C. VISCIDIFLORUS*. The combination of these two characters separates it from either of the other species. *HAPLOPAPPUS MACRONEMA* has glandular, non-overlapping involucre bracts. A hand lens may be needed to determine these characters.

Global range: Clark Co., ID and adjacent MT. The range of the species as a whole is WY and NE south to CO and CA. Regional endemic.

State range: Beaverhead Mtns.

Montana counties: Beaverhead

Habitat: Calcareous rocky soil and talus near or above timberline. Elev. 9200-9600 ft.

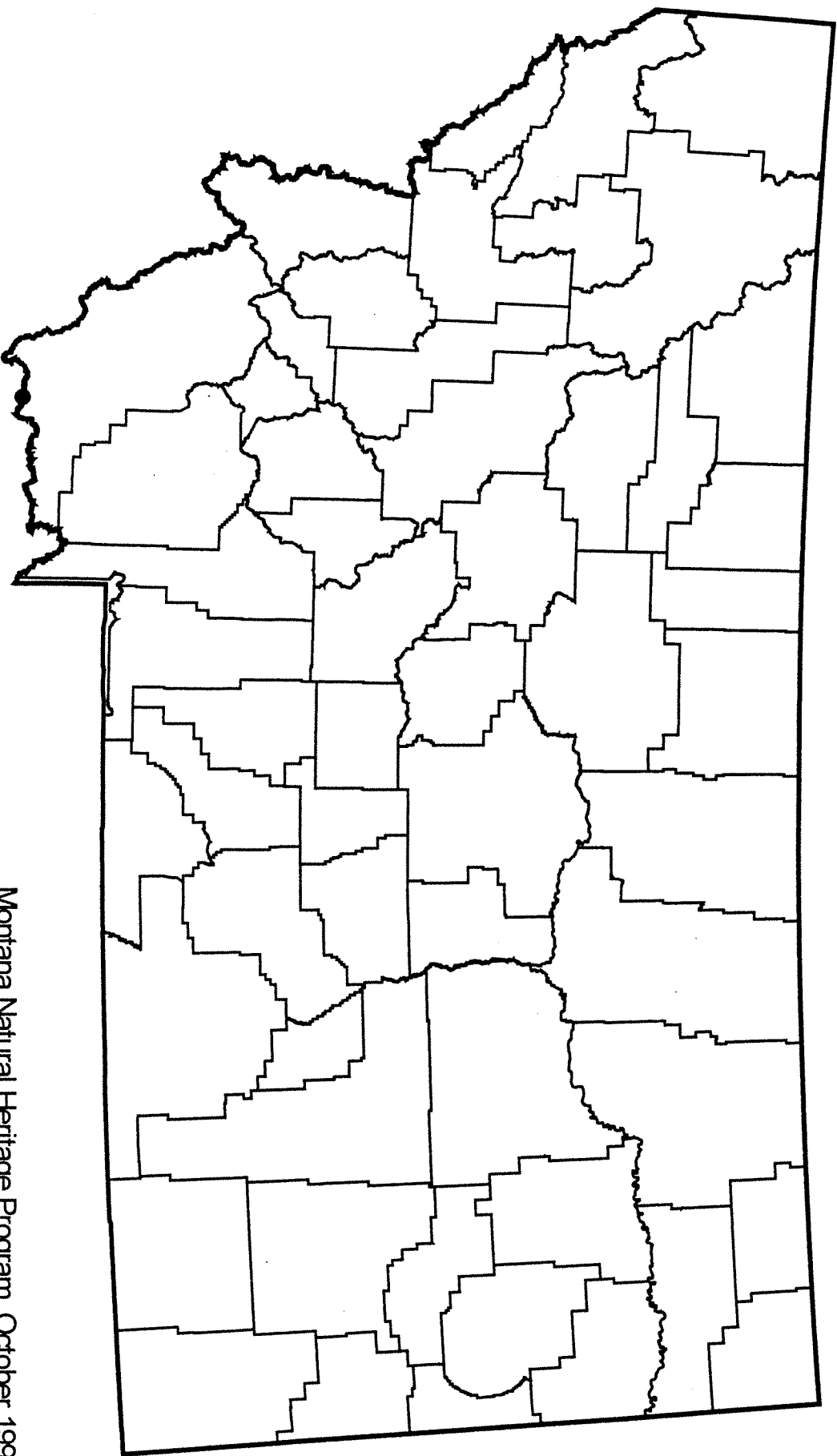
Land Ownership Summary:
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, DILLON RANGER DISTRICT

---REFERENCES---

- Lesica, P. 1992. Conservation status of *CHRYSOETHAMNUS PARRYI* SPP. *MONTANUS* on the Beaverhead National Forest. Unpublished report. Montana Natural Heritage Program. Helena, MT. 21 pp.
- Mancuso, M. and R. K. Moseley. 1990. Field investigation of *CHRYSOETHAMNUS PARRYI* ssp. *MONTANUS*, a Region 4 sensitive species of the Targhee National Forest. Unpublished report.

Montana Distribution
of

Chrysothamnus parryi ssp *montanus* (Centennial Rabbitbrush)



Montana Natural Heritage Program, October 1996

Clarkia rhomboidea Dougl. ex Hook.
(Common Clarkia)

Family: ONAGRACEAE

Global rank: G4 USFS Region 1 status: SENSITIVE
State rank: S2 USFWS status:
BLM status:

Description: Common clarkia is an annual with mostly unbranched stems 15-50 cm tall. The few leaves are opposite, with petioles 1-3 cm long and lance-shaped to elliptic, entire margined blades 2-7 cm long; herbage is sparsely covered with short hairs. The few flowers are borne in a loose, narrow, nodding inflorescence terminating the stem; the 4 separate petals are spoon-shaped, 5-10 mm long, and rose-purple, often with purple dots. The ovary is club-shaped and below the point of attachment of the petals. The fruits are capsules 1.5-3 cm long, with a short beak at the tip. flowering in late May and June.

Most easily confused with species of EPILOBIUM, but can be distinguished by having seeds without a tuft of hairs at the tip.

Global range: Southern B.C. southward to s. CA , e. to ID, w. MT, UT and AZ.
Peripheral.

State range: Cabinet and Coeur d'Alene Mtns.

Montana counties: Lincoln, Sanders

Habitat: Often lightly disturbed soil of dry, open forests in the montane zone. Elev.
2460-6800 ft.

Land Ownership Summary:

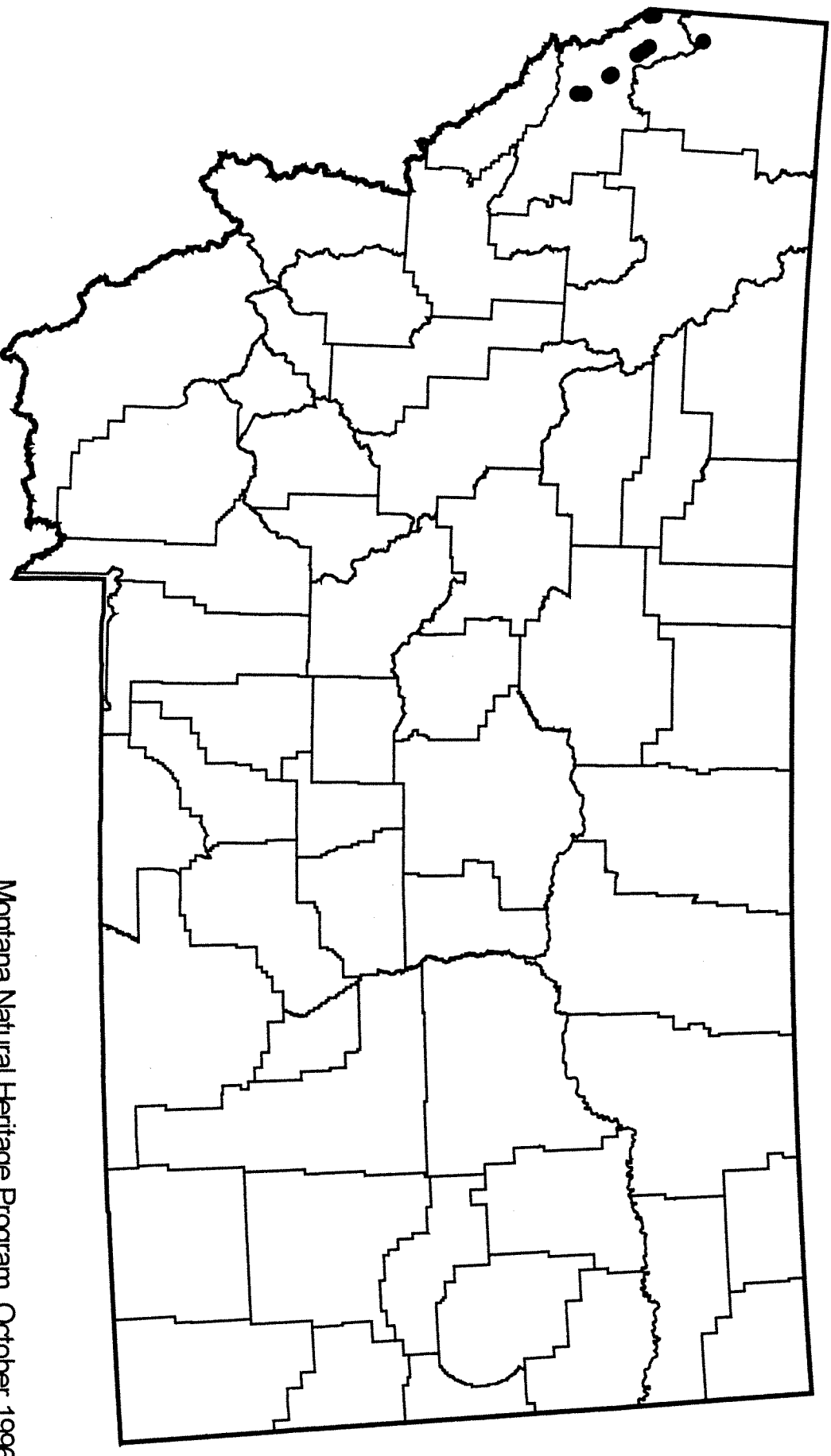
CORPORATE TIMBERLANDS
KOOTENAI NATIONAL FOREST, CABINET RANGER DISTRICT
KOOTENAI NATIONAL FOREST, THREE RIVERS RANGER DISTRICT
LOLO NATIONAL FOREST, PLAINS/THOMPSON FALLS RANGER DISTRICT
MOUNT SILCOX WILDLIFE MANAGEMENT AREA

---REFERENCES---

Smith-Huerta, N. L. 1984. Seed germination in related diploid and allotetraploid CLARKIA species.
Bot. Gaz. 145(2):246-252.

Montana Distribution
of

Clarkia rhomboidea (Common Clarkia)



Montana Natural Heritage Program, October 1996

Cypripedium calceolus var *parviflorum* Salisb.
(Small Yellow Lady's-slipper)

Family: ORCHIDACEAE

Global rank: G5 USFS Region 1 status: SENSITIVE
State rank: S2S3 USFWS status:
 BLM status: WATCH

Description: Small yellow lady's-slipper has leafy stems 15-40 cm tall, arising from short rhizomes. Elliptic leaves are 6-7 cm long and sheath the stem; foliage lightly pubescent and usually glandular. The 1-2 yellow flowers are subtended by an erect leafy bract, often longer than the inflorescence. Narrow sepals are up to 4 cm long, and wavy-margined or slightly twisted; one petal is strongly pouch-shaped and often purple-dotted; the other 2 petals are united into one that is similar to the sepals but slightly longer. Fruit is an elliptic capsule bearing thousands of tiny seeds. Flowering in May and June, fruiting in July.

This is the only yellow-flowered lady's slipper. A hybrid between *C. CALCEOLUS* and *C. MONTANUM* can occur where the two species meet.

Global range: B.C. to WA and OR, e. of the Cascade crests, to ID, WY, MT, UT and CO, e. N.America, Europe. Sparse.

State range: Nw. MT mountain ranges; also historic records in Absaroka-Beartooth Mtns., Bridger Mtns., Garnet Range, Little Belt Mtns., and Madison Range.

Montana counties: Flathead, Gallatin, Granite, Judith Basin, Lake, Lewis and Clark, Lincoln, Missoula, Park, Stillwater, Sweet Grass, Teton

Habitat: Fens, damp mossy woods, seepage areas, and moist forest-meadow ecotones in the valleys and lower montane zone. Elev. 2520-6200 ft.

Land Ownership Summary:

BLM: BUTTE DISTRICT, GARNET RESOURCE AREA
CORPORATE TIMBERLANDS
D & A RANCH CONSERVATION EASEMENT
FLATHEAD INDIAN RESERVATION
FLATHEAD NATIONAL FOREST, SPOTTED BEAR RANGER DISTRICT
FLATHEAD NATIONAL FOREST, SWAN LAKE RANGER DISTRICT
FORT HARRISON
GALLATIN NATIONAL FOREST, BOZEMAN RANGER DISTRICT
GREEN MEADOW GAME PRESERVE
GRUSIN RANCH CONSERVATION EASEMENT
HELENA NATIONAL FOREST, HELENA RANGER DISTRICT
KOOTENAI NATIONAL FOREST, FISHER RIVER RANGER DISTRICT
KOOTENAI NATIONAL FOREST, FORTUNE RANGER DISTRICT
LEWIS & CLARK NATIONAL FOREST, ROCKY MOUNTAIN RANGER DISTRICT
LOLO NATIONAL FOREST, NINEMILE RANGER DISTRICT
MOUNT HELENA CITY PARK
PINE BUTTE SWAMP PRESERVE
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
STATE LAND - UNDESIGNATED
STILLWATER STATE FOREST
SUSIE CREEK HOMESTEAD CONSERVATION EASEMENT
SWAN RIVER OXBOW PRESERVE
SWAN RIVER STATE FOREST
WEBBER RANCH CONSERVATION EASEMENT
WHITEFISH LAKE STATE RECREATION SITE

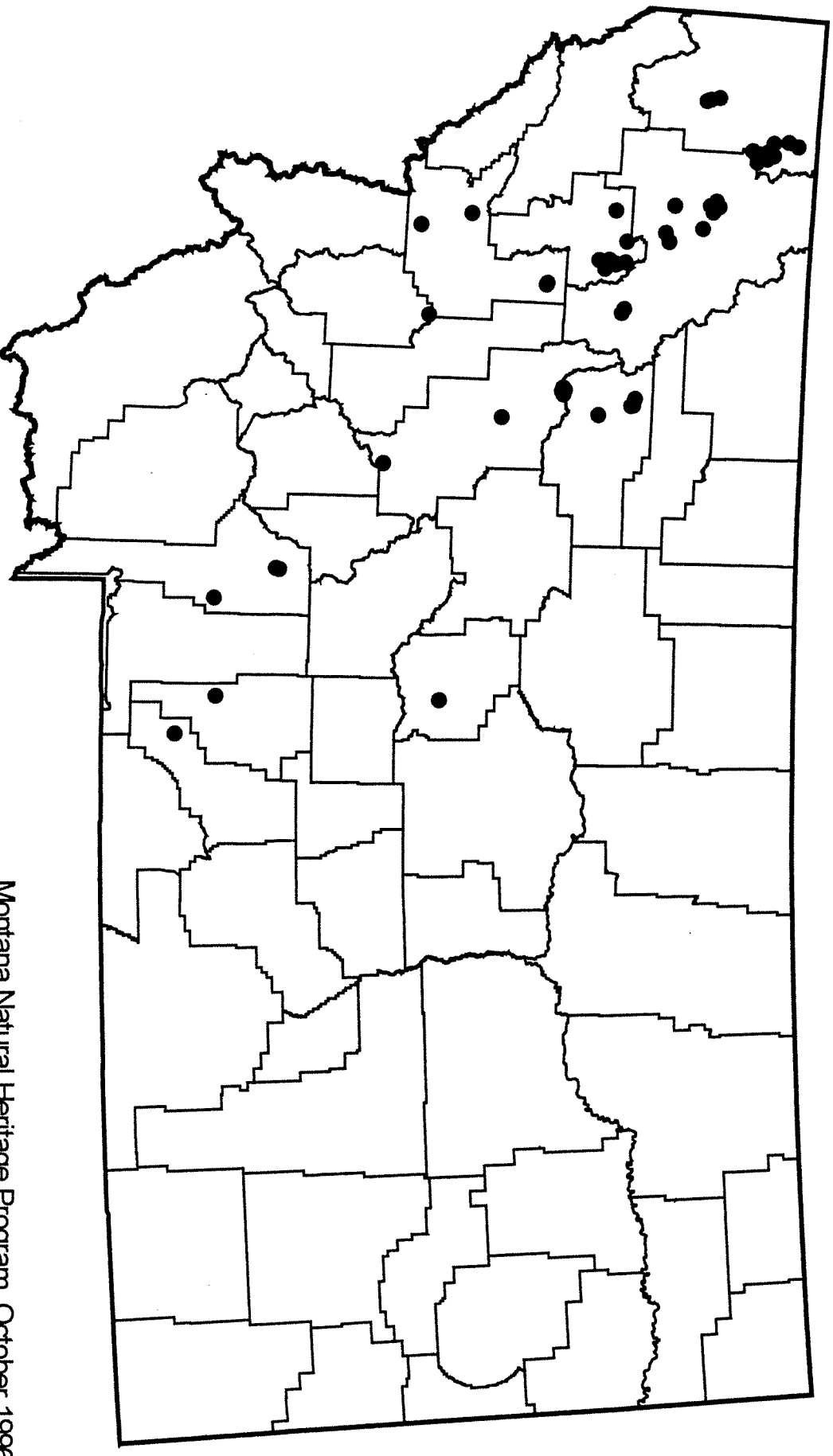
---REFERENCES---

Arditti, J., J. D. Michaud and P. L. Healey. 1979. Morphometry of orchid seeds. I. PAPHIOPEDILUM and native California and related species of CYPRIPEDIUM. American Journal of Botany. 66(10):1128-1137.

- Chadde, S. 1991. Sensitive plant survey, Pinkham Analysis Area, Fortine & Rexford Ranger Districts, Kootenai National Forest. Unpublished report. 26 pp. plus appendices.
- Harms, V. L. 1973. New record for the yellow lady's slipper orchid, *CYPRIPEDIUM CALCEOLUS* L. subsp. *parviflorum* (Salisb.) Hult., from Alaska. *Rhodora* 75:491.
- Heidel, B. 1992. Survey of *CYPRIPEDIUM CALCEOLUS*. Unpublished report to the Bureau of Land Management, Butte District, Garnet Resource Area. Montana Natural Heritage Program, Helena. 10 pp. plus figures.
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- Hoitsma, T. 1992. Sensitive Plant Survey, Fortine Ranger District, Kootenai National Forest. Unpublished report. 65 pp. plus appendices.
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- Nekola, J. C. 1990. Rare Iowa plant notes from the R. V. Drexler Herbarium. *Journal Iowa Academy of Sciences* 97:55-73.
- St-Arnaud, M. and D. Barabe. 1989. Comparative analysis of the flower vascularization of some *CYPRIPEDIUM* species (Orchidaceae). *Lindleyana* 4(3):146-153.

Montana Distribution
of

Cypripedium calceolus v. *parviflorum* (Small Yellow Lady's-Slipper)



Montana Natural Heritage Program, October 1996

Cypripedium fasciculatum Kellogg ex S. Wats.
(Clustered Lady's-slipper)

Family: ORCHIDACEAE

Global rank: G4 USFS Region 1 status: SENSITIVE
State rank: S2 USFWS status:
BLM status:

Description: Clustered lady's-slipper has densely hairy, solitary stems, 5-20 cm tall, arising from a rhizome. There is a single leaf wrapped around the base of the stem and a pair of sessile, opposite leaves near the top of the stem; these leaves are broadly elliptic to oval and 4-8 cm broad. The 2-4 flowers are tightly clustered at the top of the stem, and each is subtended by a green, lance-shaped bract; the 3 narrowly lance-shaped sepals are 12-25 mm long and greenish brown to purplish with purple lines or spots; the lower two are united nearly to the tip; 2 upper petals are similar to the sepals in shape and color; the lower petal is pouch-shaped, shorter than the sepals, and greenish yellow with brownish-purple margins and often with a purple tinge. The ovary and mature capsule are densely hairy. Flowering in late June to early August, fruiting in late August.

Species in the genus LISTERA resemble this orchid but are much smaller, have prominent hairs, and flowers arranged in an elongate inflorescence.

Global range: WA to nw. MT, south to CA, nw UT and nw. CO. Peripheral.

State range: Bitterroot Range, Coeur d'Alene Mtns., and Mission Mtns.

Montana counties: Lake, Mineral, Sanders

Habitat: Dry to moist forests in the montane zone. Elev. 3000-4700 ft.

Land Ownership Summary:

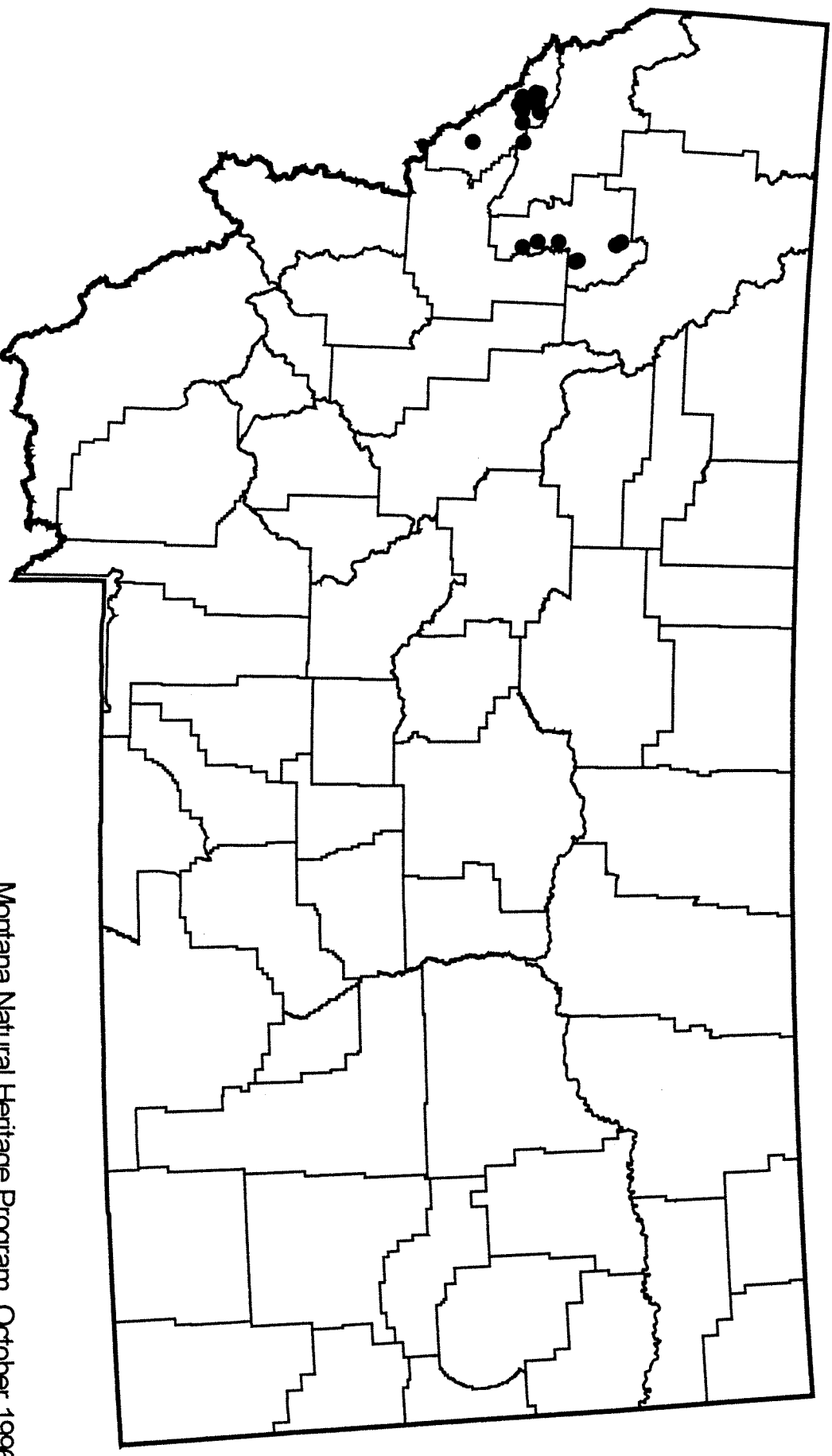
CORPORATE TIMBERLANDS
FLATHEAD INDIAN RESERVATION
FLATHEAD NATIONAL FOREST, SWAN LAKE RANGER DISTRICT
LOLO NATIONAL FOREST, NINEMILE RANGER DISTRICT
LOLO NATIONAL FOREST, PLAINS/THOMPSON FALLS RANGER DISTRICT
LOLO NATIONAL FOREST, SUPERIOR RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

---REFERENCES---

Brownell, V. R. and P. M. Catling. 1987. Notes on the distribution and taxonomy of CYPRIPEDIUM FASCICULATUM Kellogg ex Watson (Orchidaceae). Lindleyana. 2(1): 53-57.

Montana Distribution
of

Cypripedium fasciculatum (Clustered Lady's-Slipper)



Montana Natural Heritage Program, October 1996

Cypripedium passerinum Richards.
(Sparrow's-egg Lady's-slipper)

Family: ORCHIDACEAE

Global rank: G4G5 USFS Region 1 status: SENSITIVE
State rank: S2 USFWS status:
 BLM status:

Description: Sparrow's-egg lady's-slipper has leafy stems up to 35 cm high from slender, creeping rhizomes. The 3-5 broadly lance-shaped leaves are up to 15 cm long, and clasp the stem; the herbage is covered with long, soft hairs and is usually somewhat sticky. The one or two flowers are subtended by a leafy bract which is longer than the inflorescence; the sepals are green and 10-16 mm long, the upper one longer than the lower two; the petals are white, the lower one is pouch-like with purple spots on the inside, and the other two resemble the sepals but are shorter. The erect capsule is ovoid and bears thousands of tiny seeds. Flowering in late June, July and early August.

This species can be distinguished from our other white lady's slipper (C. MONTANUM) by the sepals that are shorter than the slipper-like petal, and not wavy or twisted.

Global range: AK and Yukon to Hudson Bay and Quebec, s. to se. B.C., n. MT and to the region of Lake Superior. Peripheral.

State range: Front Range, Swan Range, Mission Mtns., and Whitefish Mtns.

Montana counties: Flathead, Lake, Lewis and Clark, Lincoln, Pondera, Powell, Teton

Habitat: Mossy, moist or seepy places in coniferous forests, often on calcareous substrates. Elev. 3100-5700 ft.

Land Ownership Summary:

BLACKFEET INDIAN RESERVATION
BOB MARSHALL WILDERNESS
FLATHEAD NATIONAL FOREST, HUNGRY HORSE RANGER DISTRICT
FLATHEAD NATIONAL FOREST, SPOTTED BEAR RANGER DISTRICT
FLATHEAD NATIONAL FOREST, SWAN LAKE RANGER DISTRICT
FLATHEAD WILD & SCENIC RIVER
GLACIER NATIONAL PARK
GREAT BEAR WILDERNESS
KOOTENAI NATIONAL FOREST, FORTINE RANGER DISTRICT
LEWIS & CLARK NATIONAL FOREST, ROCKY MOUNTAIN RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
SCAPEGUAT WILDERNESS
STATE LAND - UNDESIGNATED
SWAN RIVER STATE FOREST

---REFERENCES---

- Arditti, J., J. D. Michaud and P. L. Healey. 1979. Morphometry of orchid seeds. I. PAPHIOPEDILUM and native California and related species of CYPRIPEIDIUM. American Journal of Botany. 66(10):1128-1137.
- Catling, P. M. 1983. Autogamy in eastern Canadian Orchidaceae: a review of current knowledge and some new observations. Naturaliste Canada 110:37-53.
- Hoitsma, T. 1992. Sensitive Plant Survey, Fortine Ranger District, Kootenai National Forest. Unpublished report. 65 pp. plus appendices.
- Horn, G. 1980. Report on inventory of threatened or endangered, rare, or sensitive plants-Headwaters Resource Area, Butte District, Bureau of Land Management, Montana. Unpublished report. 54 pp.
- Keddy, C. J., Keddy, P. A. and R. J. Planck. 1983. An ecological study of CYPRIPEIDIUM PASSERINUM Rich. (sparrow's egg lady-slipper, Orchidaceae) on the north shore of Lake Superior. Canadian Field-Naturalist 97(3):268-274.

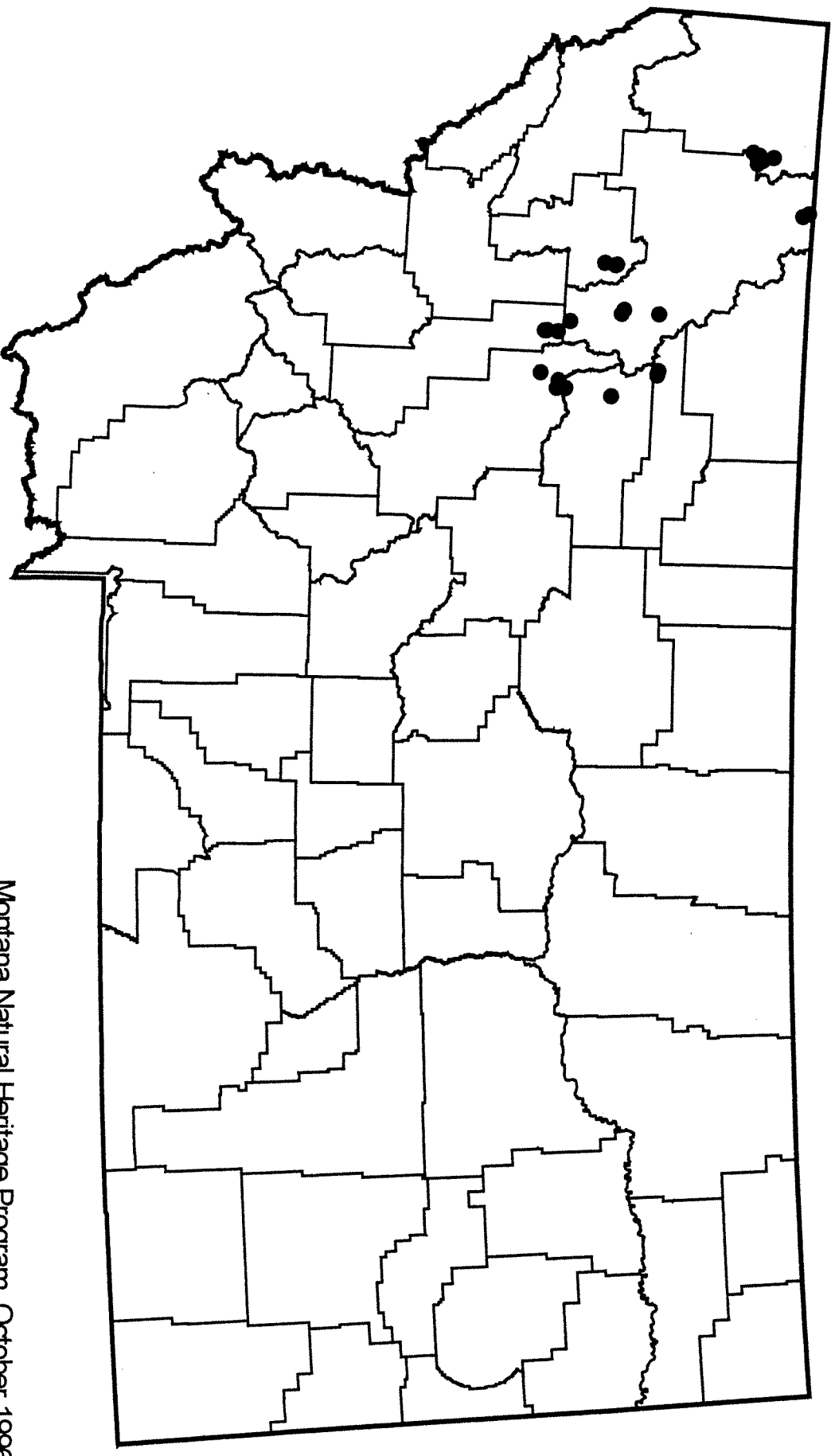
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Shelly, J. S. 1988. Status review of CYPRIPEDIUM PASSERINUM, Flathead and Lewis and Clark National Forests. Unpublished report. Montana Natural Heritage Program, Helena, MT. 52 pp.

St-Arnaud, M. and D. Barabe. 1989. Comparative analysis of the flower vascularization of some CYPRIPEDIUM species (Orchidaceae). Lindleyana 4(3):146-153.

Montana Distribution
of

Cypripedium passerinum (Sparrow's-egg Lady's-Slipper)



Montana Natural Heritage Program, October 1996

Drosera linearis Goldie
(Linear-leaved Sundew)

Family: DROSERACEAE

Global rank:	G4	USFS Region 1 status:	SENSITIVE
State rank:	S1	USFWS status:	
		BLM status:	

Description: Linear-leaved sundew is a small, perennial herb with leafless, glabrous stems 6-13 cm tall. The linear leaf blades are 2-5 cm long and approximately 2 mm wide; petioles are flat and 3-7 cm long; blades are covered with long, purple, gland-tipped hairs which trap insects. The 1-4 flowers are borne in a narrow, open inflorescence at the tip of the stem; the 5 egg-shaped, white petals are approximately 6 mm long, and the sepals are 4-5 mm long. The fruit is a small capsule with numerous seeds. Flowering late June to August, fruiting in late September.

This species is very difficult to distinguish from the more common *D. ANGLICA*. The leaves of *D. LINEARIS* are more linear and the seeds are rounded on the ends rather than tapered to a point.

Global range: Boreal Canada, s. to ME, WI, and MT. Peripheral.

State range: Lewis Range and Swan Range.

Montana counties: Flathead, Lewis and Clark, Powell

Habitat: Wet organic soil of nutrient-poor fens at mid-elevations in the mountains. Elev. 4350-6030 ft.

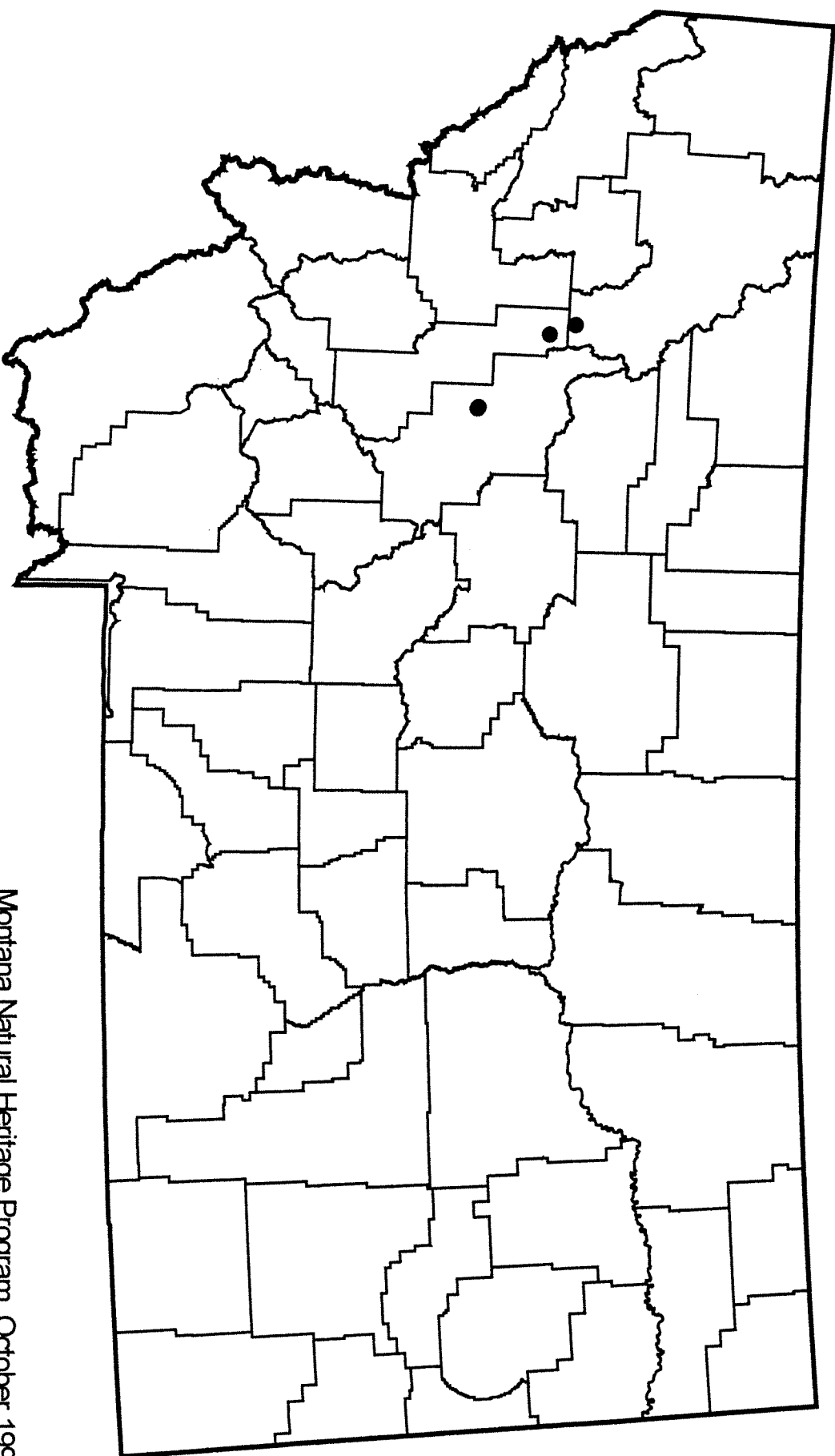
Land Ownership Summary:

BOB MARSHALL WILDERNESS
FLATHEAD NATIONAL FOREST, SPOTTED BEAR RANGER DISTRICT
HELENA NATIONAL FOREST, LINCOLN RANGER DISTRICT
INDIAN MEADOWS PROPOSED RESEARCH NATURAL AREA

---REFERENCES---

Montana Distribution
of

Drosera linearis (Linear-leaved Sundew)



Montana Natural Heritage Program, October 1996

Dryopteris cristata (L.) Gray
(Buckler Fern)

Family: DRYOPTERIDACEAE

Global rank: G5 USFS Region 1 status: SENSITIVE
State rank: S2 USFWS status:
 BLM status:

Description: Buckler fern is a herbaceous perennial with clustered fronds arising from a short rhizome. The stalked fronds have a narrowly elliptic blade pinnately divided into numerous pairs of pinnately lobed leaflets (pinnae). Fertile fronds, 3-6 dm (15-30 in) long, are erect and deciduous, while the sterile ones are evergreen, smaller and more lax. Clusters of spores (sori) are borne along either side of the pinnae midveins on the underside of fertile fronds. Sori are covered by a whitish, broadly horseshoe-shaped membrane (indusium). Mature fronds in July and August, spores in early July.

The broadly horseshoe-shaped indusium identify this as a DRYOPTERIS. Other members of the genus in our area have more highly divided leaves and sterile and fertile fronds that are similar to each other.

Global range: Newf. to B.C., south to NC, TN, KN, ND, nw. MT, n. ID, and WA.
Peripheral.

State range: Clark Fork, Flathead, Swan and Bitterroot river drainages.

Montana counties: Flathead, Lake, Missoula, Ravalli

Habitat: Moist to wet, often organic soils of fens, swamps or forest margins in the montane zone. Elev. 3100-4500 ft.

Land Ownership Summary:

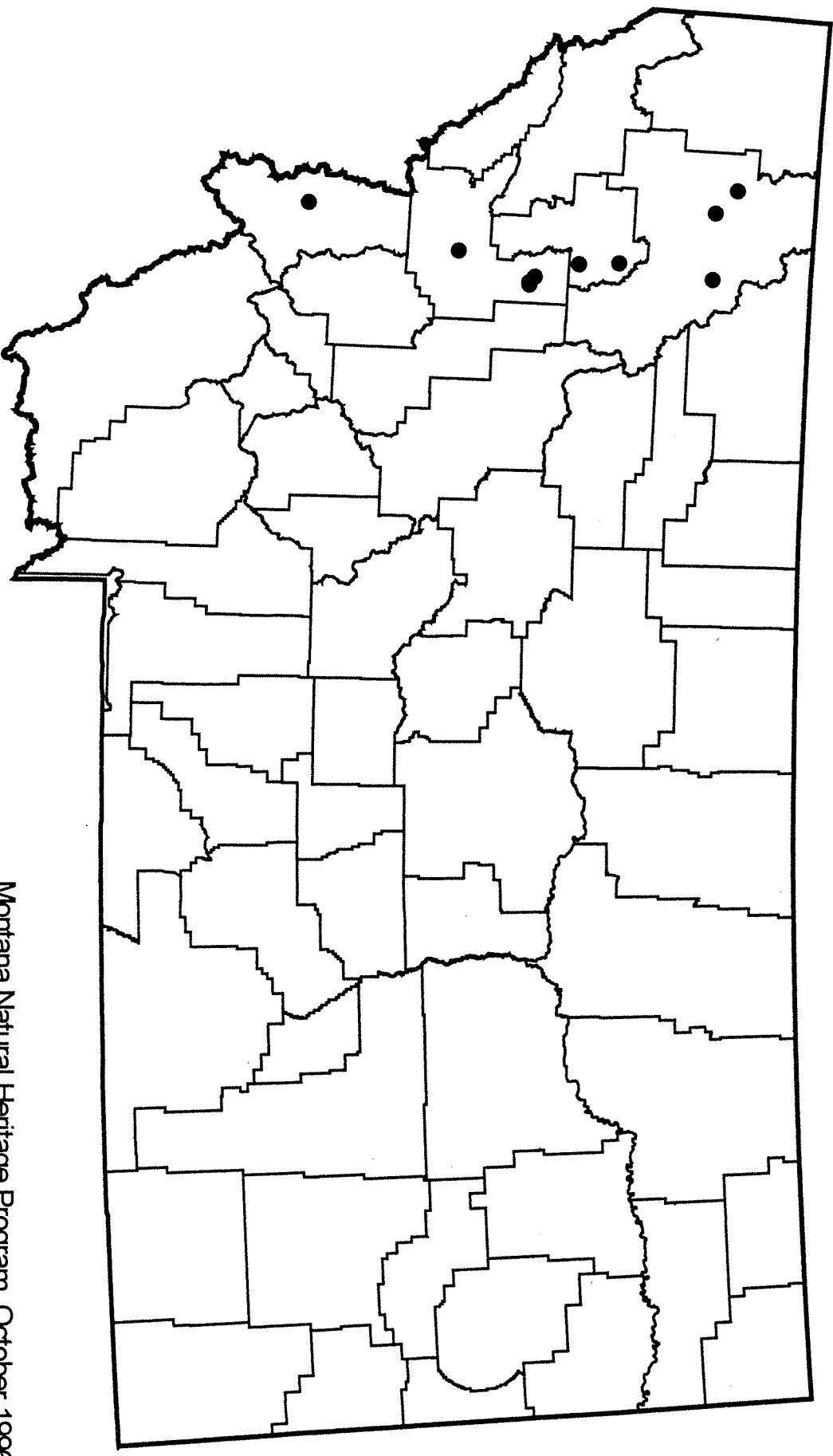
BITTERROOT NATIONAL FOREST, DARBY RANGER DISTRICT
CORPORATE TIMBERLANDS
FLATHEAD NATIONAL FOREST, SWAN LAKE RANGER DISTRICT
GLACIER NATIONAL PARK
LOLO NATIONAL FOREST, MISSOULA RANGER DISTRICT
LOLO NATIONAL FOREST, SEELEY LAKE RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
RATTLESNAKE NATIONAL RECREATION AREA
SWAN RIVER OXBOW PRESERVE
WHITEFISH SPRUCE SWAMP CONSERVATION EASEMENT

---REFERENCES---

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Montana Distribution
of

Dryopteris cristata (Buckler Fern)



Montana Natural Heritage Program, October 1996

Elymus innovatus (Beal) Pilger
(Northern Wild-rye)

Family: POACEAE

Global rank: G5 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status:

Description: Northern wildrye is a perennial grass that forms small clumps of stems, 4-8 dm (16-32 in) high, arising from creeping rhizomes. The stiff leaves, 2-4 mm wide, have inrolled margins and are glabrous on top but minutely roughened on the bottom. The membranous crest on the leaf where it meets the stem (ligule) is ca. 1 mm high with hairs on the upper margin. Spikelets are arranged opposite each other at each node in a narrow spike, 4-9 cm (2-4 in) long, at the top of the stems. Spikelets are often purplish and have a pair of narrow awn-tipped glumes at the base and 3-5 flowers, each with an awned, hairy lemma, 5-12 mm long, and a smaller palea. Flowering in June and July.

ELYMUS GLAUCUS lacks rhizomes, and the leaf blades are 5-10 mm wide.

Global range: AK to B.C., e. to Alberta and s. to MT, WY, and SD. Peripheral.

State range: Front Range and Little Belt Mtns.

Montana counties: Cascade, Glacier, Pondera

Habitat: Moist meadows and forest margins and openings along rivers and streams in the valleys and lower montane zone. Elev. 4600-5160 ft.

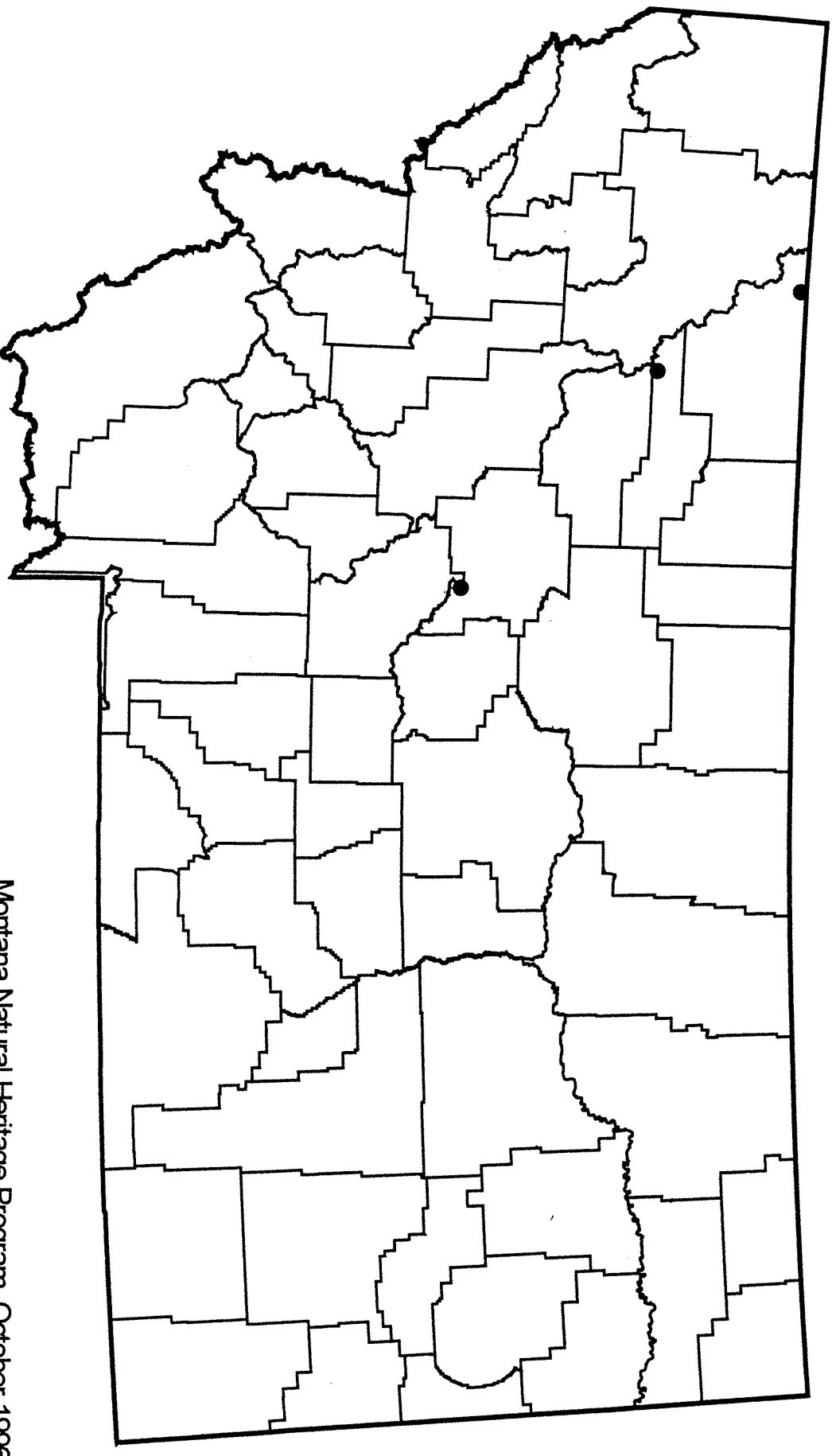
Land Ownership Summary:

BLACKFEET INDIAN RESERVATION
BOB MARSHALL WILDERNESS
GLACIER NATIONAL PARK
LEWIS & CLARK NATIONAL FOREST, KINGS HILL RANGER DISTRICT
LEWIS & CLARK NATIONAL FOREST, ROCKY MOUNTAIN RANGER DISTRICT

---REFERENCES---

Montana Distribution
of

Elymus innovatus (Northern Wild-rye)



Montana Natural Heritage Program, October 1996

Epipactis gigantea Dougl. ex Hook.
(Giant Helleborine)

Family: ORCHIDACEAE

Global rank:	G4	USFS Region 1 status:	SENSITIVE
State rank:	S2	USFWS status:	
		BLM status:	WATCH

Description: Giant helleborine is a large perennial herb, with leafy stems 30-100 cm tall from short rhizomes. The leaves are without petioles and up to 20 cm long; the lower are ovate, the upper are lance-shaped; the herbage is rough to the touch or smooth and glabrous. The numerous flowers are borne singly in a long, narrow, leafy-bracted inflorescence at the top of the stems; the lance-shaped sepals are green with brownish stripes and approximately 15 mm long; the upper two petals are shorter and broader than the sepals; the lower petal is sac-like, and longer and more reddish than the sepals. The nodding capsule is elliptic and bears many thousands of tiny seeds. Flowering from June through August.

The tall stems with reddish flowers in the leaf axils makes this one of our most distinctive orchids, not easily confused with any other species.

Global range: B.C. s.to Baha CA, and in most of w. U.S.to the Rocky Mountains and s. to n. Mexico. Sparse.

State range: Front Range, Pryor Mtns., and Tobacco Root Mtns., also Flathead and Clark Fork river drainages.

Montana counties: Carbon, Cascade, Flathead, Granite, Lake, Madison, Powell, Teton

Habitat: Springs, spring creeks and seeps, usually where the water does not freeze in the winter as in thermal areas. Elev. 2900-6200 ft.

Land Ownership Summary:

BEAVERHEAD-DEERLODGE NATIONAL FORESTS, MADISON RANGER DISTRICT
BLUEWATER SPRINGS TROUT HATCHERY
CORPORATE TIMBERLANDS
DEER LODGE STATE PRISON
FLATHEAD INDIAN RESERVATION
FLATHEAD NATIONAL FOREST, GLACIER VIEW RANGER DISTRICT
FLATHEAD NATIONAL FOREST, SWAN LAKE RANGER DISTRICT
GLACIER NATIONAL PARK
LEWIS & CLARK NATIONAL FOREST, ROCKY MOUNTAIN RANGER DISTRICT
NIMROD WARM SPRINGS (CZORNY) REGISTRY
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
STATE LAND - UNDESIGNATED
STILLWATER STATE FOREST
SWAN RIVER NATIONAL WILDLIFE REFUGE
SWAN RIVER PROPOSED RESEARCH NATURAL AREA
SWAN RIVER STATE FOREST
WAGNER BASIN RESEARCH NATURAL AREA
YELLOW BAY BIOLOGICAL STATION
YELLOW BAY STATE RECREATION SITE

---REFERENCES---

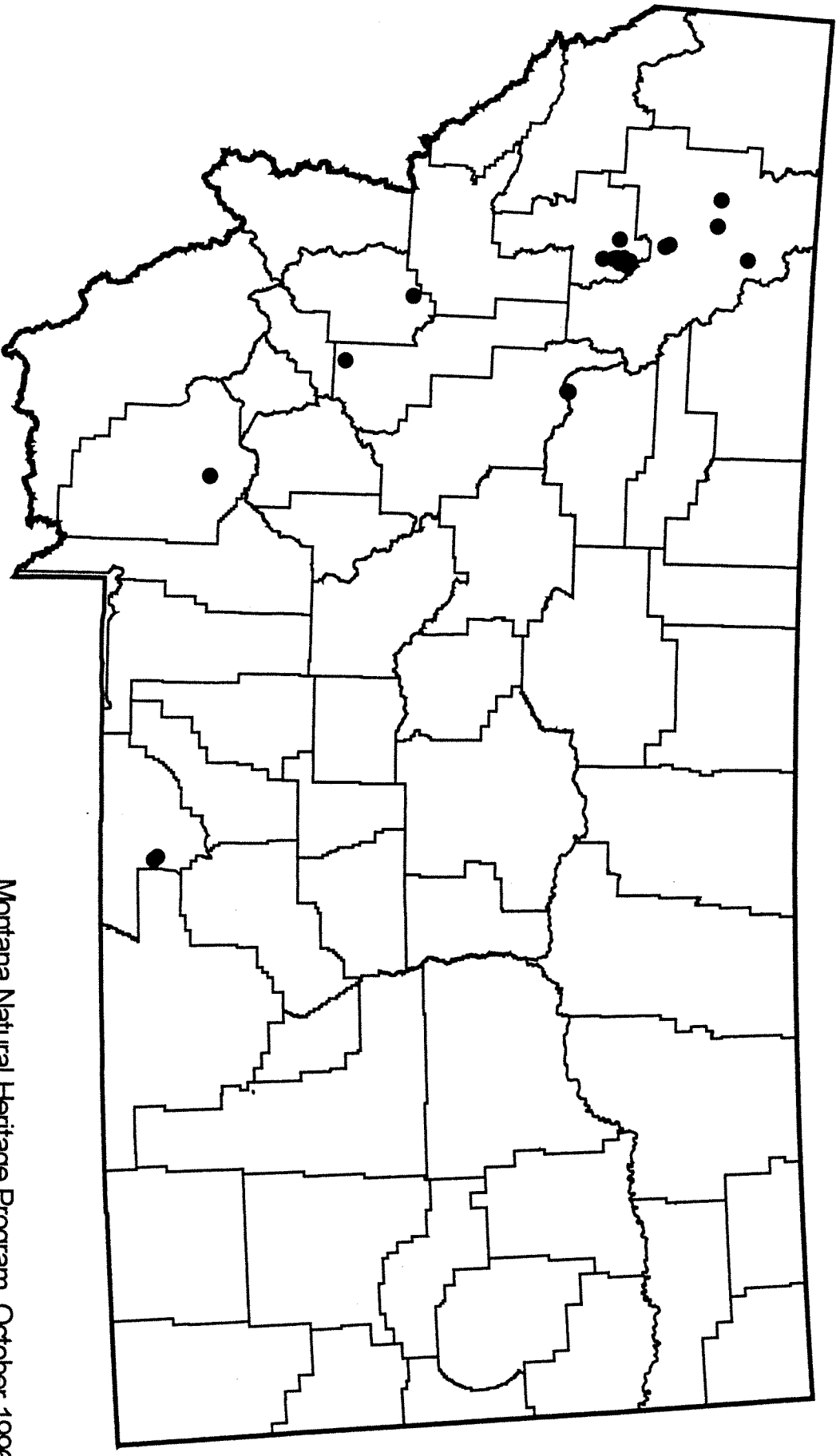
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Montana Distribution
of

Epipactis gigantea (Giant Hellebore)



Montana Natural Heritage Program, October 1996

Erigeron asperugineus (D.C. Eat.) Gray
(Idaho Fleabane)

Family: ASTERACEAE

Global rank: G4 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status: WATCH

Description: Idaho fleabane is a small perennial herb, 2-20 cm tall, with 1-few stems from a slender taproot. The basal leaves are up to 10 cm long, and have a broadly lance-shaped to nearly round blade and a long petiole; the few stem leaves are smaller and reduced upwards; the herbage is densely covered with short spreading hairs. The daisy-like, flowering heads are solitary (occasionally 2) at the ends of the stalks; the involucre bracts are 5-9 mm long and covered with glands and spreading hairs; the 10-25 deep blue or violet rays that compose the "petals" of the flowering head are 5-10 mm long; the disk corollas in the center of the head are 4-6 mm long. The "seeds" (achenes) have 20-30 bristles (pappus) at the top. Flowering in July and August.

ERIGERON is a very large and difficult genus. Many species, including, E. TWEEDEYI, E. CAESPITOSUS, E. GRACILIS, and E. RYDBERGII can be confused with E. ASPERUGINEUS. A technical key should be consulted in order to make a determination.

Global range: Central ID, ne. NV, and sw. MT. Regional endemic.

State range: Beaverhead Mtns., Bitterroot Mtns., Centennial Mtns., and Highland Mtns.

Montana counties: Beaverhead, Madison, Ravalli

Habitat: Open soil and scree in the alpine zone. Elev. 6000-10000 ft.

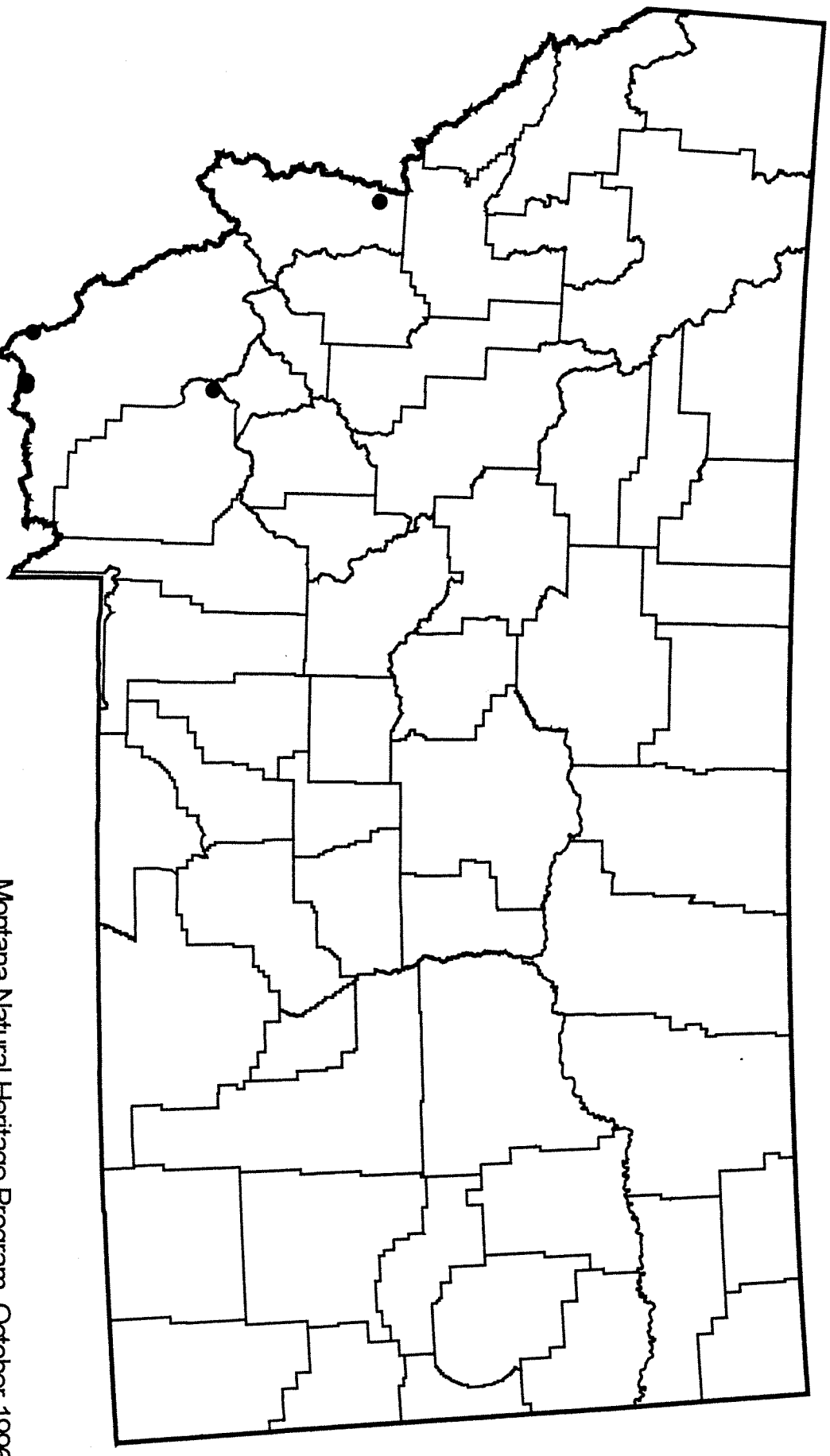
Land Ownership Summary:

BEAVERHEAD-DEERLODGE NATIONAL FORESTS, DILLON RANGER DISTRICT
BITTERROOT NATIONAL FOREST, STEVENSVILLE RANGER DISTRICT
SELWAY-BITTERROOT WILDERNESS
STATE LAND - UNDESIGNATED

---REFERENCES---

Montana Distribution
of

Erigeron asperugineus (Idaho Fleabane)



Montana Natural Heritage Program, October 1996

Erigeron evermannii Rydb.
(Evermann Fleabane)

Family: ASTERACEAE

Global rank: G4 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status:

Description: Evermann fleabane is a dwarf perennial with stems up to 10 cm tall from a branched rootstock, and a long, deep-seated taproot. The glabrous basal leaves are up to 4 cm long, spoon-shaped, and rounded at the tip; the stem leaves are greatly reduced or lacking. The flowering heads are solitary at the ends of the stems; the rays that compose the "petals" of the flowering head are 6-10 mm long, and white or occasionally light blue; the involucral bracts are 5-8 mm long, spreading hairy, and usually glandular. The "seeds" (achenes) have 25-35 unequal-length bristles (pappus) at the top. Flowering in July and August.

ERIGERON is a very large and difficult genus. The almost complete absence of stem leaves and the shifting talus habitat are good distinguishing characters for E. EVERMANNII.

Global range: Central ID to sw. MT. Regional endemic.

State range: Bitterroot Mountains.

Montana counties: Ravalli

Habitat: Shifting talus slopes and dry, rocky meadows near or above timberline. Elev.
9100-10000 ft.

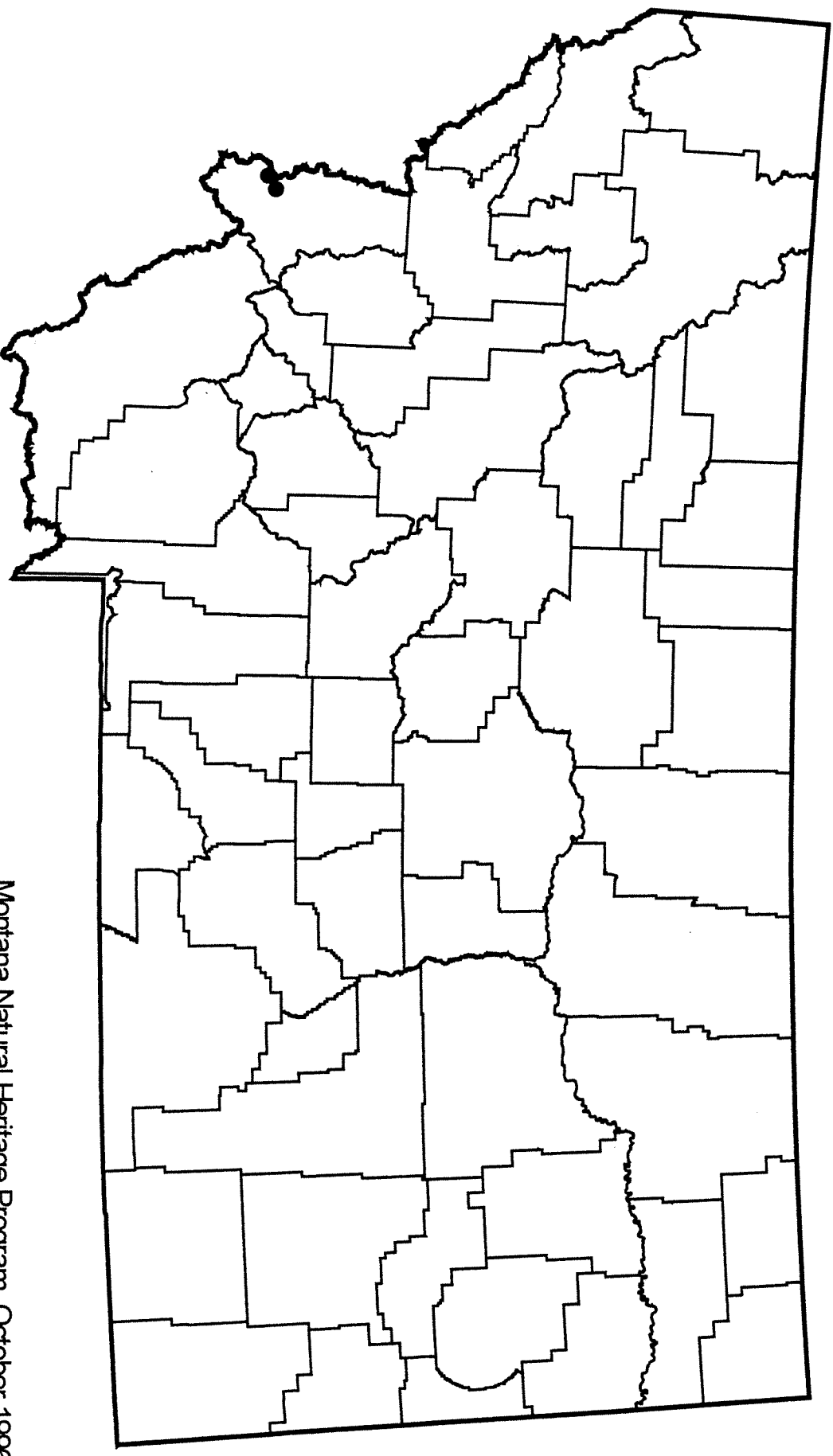
Land Ownership Summary:

BITTERROOT NATIONAL FOREST, DARBY RANGER DISTRICT
BITTERROOT NATIONAL FOREST, WEST FORK RANGER DISTRICT
SELWAY-BITTERROOT WILDERNESS

---REFERENCES---

Montana Distribution
of

Erigeron evermannii (Evermann Fleabane)



Montana Natural Heritage Program, October 1996

Erigeron lackschewitzii
(Front Range Fleabane)

Family: ASTERACEAE

Global rank: G3 USFS Region 1 status: PROPOSED SENSITIVE
State rank: S3 USFWS status:
 BLM status:

Description: Front Range fleabane is a taprooted perennial with a simple or sparingly-branched rootcrown and curved, unbranched stems 3-8 cm high. The basal leaves are 2-6 cm long and narrowly spoon-shaped with pointed tips; the 5-10 stem leaves are gradually reduced upwards; the foliage is sparsely to densely covered with long white hairs. The solitary flower heads are 10-15 mm wide; the involucre bracts are green, 6-8 mm long, and densely covered with long, white hairs and sessile glands; the 30-70 blue rays are 8-11 mm long and notched at the tip; the yellow disk corollas are 3-5 mm long. There are 15-24 pappus bristles at the top of the achenes (seeds). Flowering in July and early August, fruiting late July.

ERIGERON is a large and difficult genus, and a technical key should be consulted. The taprooted habit, blue ray flowers, and densely long-hairy involucre should help distinguish this species.

Global range: Northwest MT. Regional endemic.

State range: Front Range and Lewis Mtns.

Montana counties: Flathead, Lewis and Clark, Pondera, Teton

Habitat: Open, gravelly, calcareous soil and talus on ridge tops in the alpine and subalpine zone. Elev. 6400-8400 ft.

Land Ownership Summary:

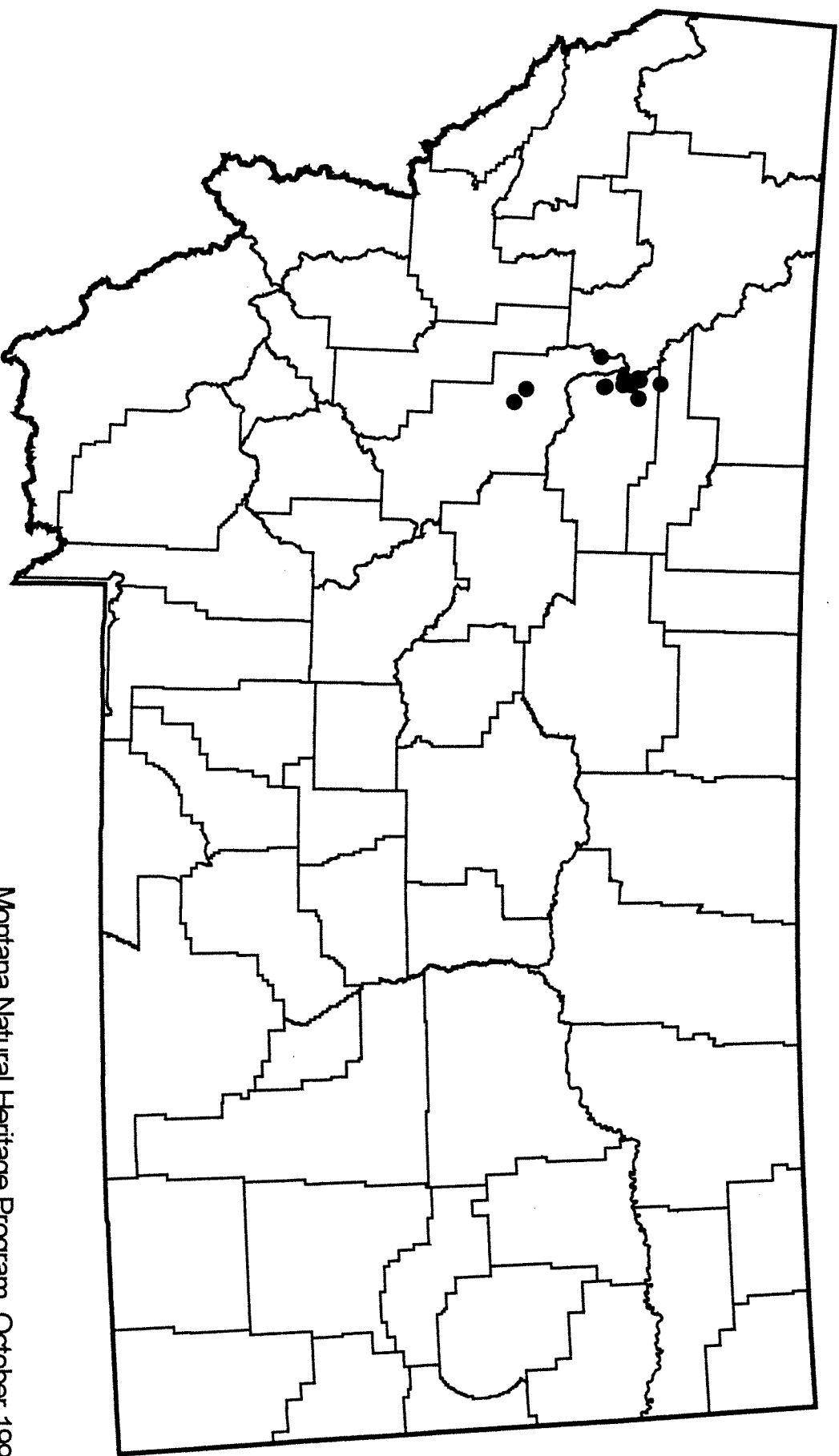
BOB MARSHALL WILDERNESS
FLATHEAD NATIONAL FOREST, SPOTTED BEAR RANGER DISTRICT
LEWIS & CLARK NATIONAL FOREST, ROCKY MOUNTAIN RANGER DISTRICT
SCAPEGUAT WILDERNESS
STATE LAND - UNDESIGNATED

---REFERENCES---

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Montana Distribution
of

Erigeron lackschewitzii (Front Range Fleabane)



Montana Natural Heritage Program, October 1996

Erigeron linearis (Hook.) Piper
(Linearleaf Fleabane)

Family: ASTERACEAE

Global rank: G5 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status:

Description: Linearleaf fleabane has unbranched stems, 5-30 cm tall, from a stout taproot and branched rootcrown. The mostly basal leaves are linear and 1-9 cm long; the bases of the stems and leaves are enlarged and straw-colored or purplish, and the herbage is covered with fine gray hairs. The flower heads are usually solitary at the ends of the stems; the involucral bracts are 4-7 mm long and are covered with long, appressed hairs and occasionally also with glands; the 15-45 yellow rays are 4-11 mm long; the yellow disk flowers are 3-5 mm long. There are 10-20 pappus bristles at the top of each achene (seed). Flowering in May and early June.

This is the only ERIGERON in our area with yellow rays.

Global range: S. B.C., s. through e. WA and OR to n. NV and Yosemite National Park, e. through c. ID to Yellowstone National Park and adjacent MT. Peripheral.

State range: Bitterroot Mtns. and Pioneer Mtns.

Montana counties: Beaverhead, Ravalli

Habitat: Dry, often rocky soil from the plains and foothills to moderate elevations in the mountains, often among sagebrush. Elev. 3900-6020 ft.

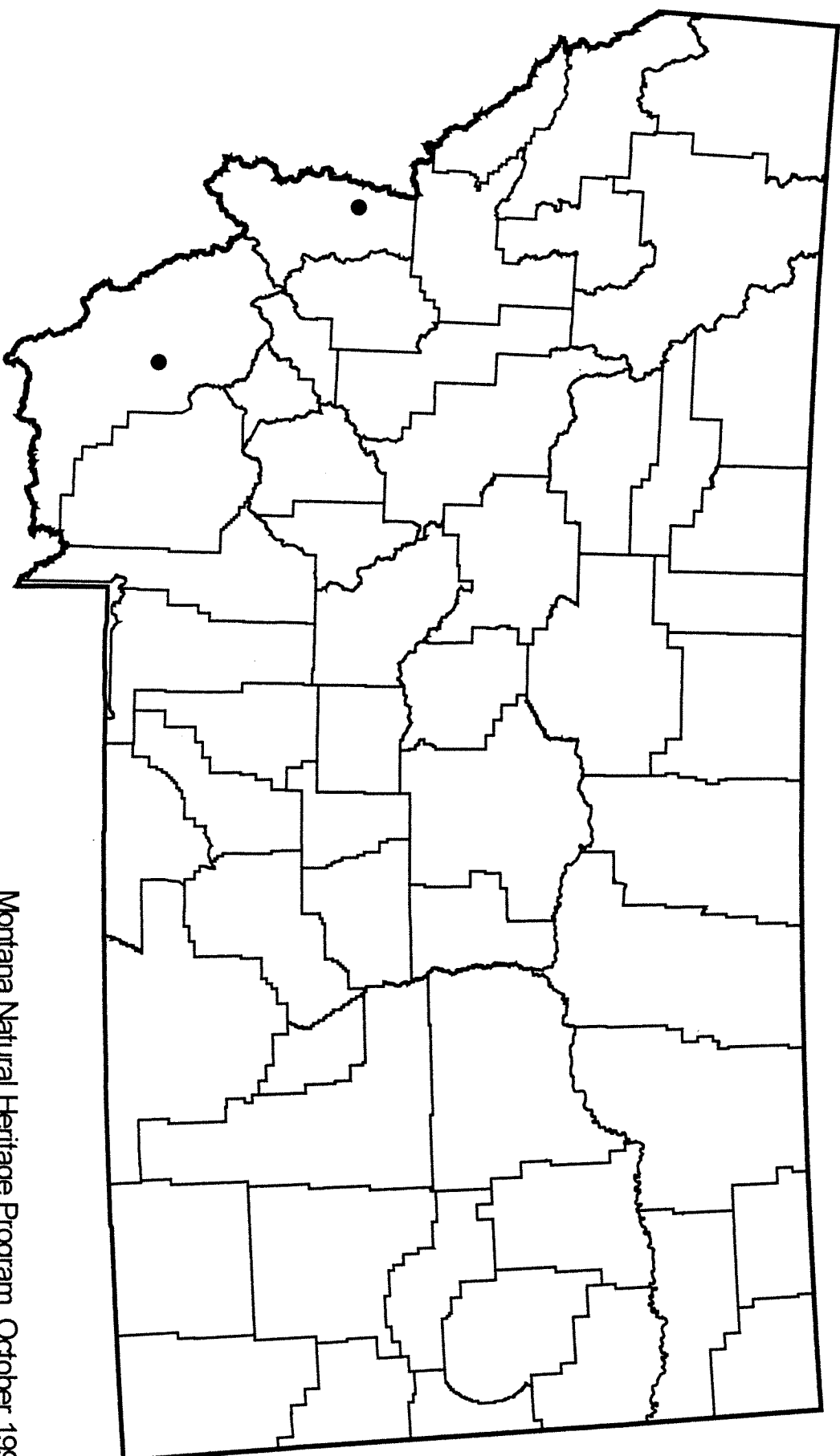
Land Ownership Summary:

BLM: BUTTE DISTRICT, DILLON RESOURCE AREA
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

---REFERENCES---

Montana Distribution
of

Erigeron linearis (Linearleaf Fleabane)



Montana Natural Heritage Program, October 1996

Eriophorum gracile W.D.J. Koch
(Slender Cottongrass)

Family: CYPERACEAE

Global rank: G5 USFS Region 1 status: PROPOSED SENSITIVE
State rank: SU USFWS status:
 BLM status:

Description: Slender cottongrass is a grass-like perennial with single erect stems, 2-6 dm (8-24 in) high arising from slender rhizomes. The long basal and stem leaves are only 1-2 mm wide, and deeply channeled or triangular in cross section except near the stem. The uppermost leaf has a blade that is shorter than the sheathing portion surrounding the stem. Flowers are borne in 2-5, stalked, head-like spikelets arising from the stem tips and subtended by a single green, leaf-like bract, shorter than the inflorescence. The spikelette stalks are covered with dense, short, soft hairs. Each flower consists of numerous long, shining white bristles at the base of the ovary and a lance-shaped, greenish black or brown scale with a slender midrib that ends well below the tip. The light brown seeds are 2-4 mm long and 3-5 times as long as wide. The mature bristles are ca. 2 cm long.

ERIOPHORUM VIRIDICARINATUM as well as the more common E. POLYSTACHION have two or more leaf-like bracts subtending the inflorescence, at least one of which is longer than the spikelets. Both of these species also have leaves that are flat for most of their length and black seeds.

Global range:

State range: Flathead and Swan River drainages.

Montana counties: Flathead, Lake, Lincoln

Habitat: Wet, organic soil of fens in the valleys and montane zone. Elev. 3080-5100 ft.

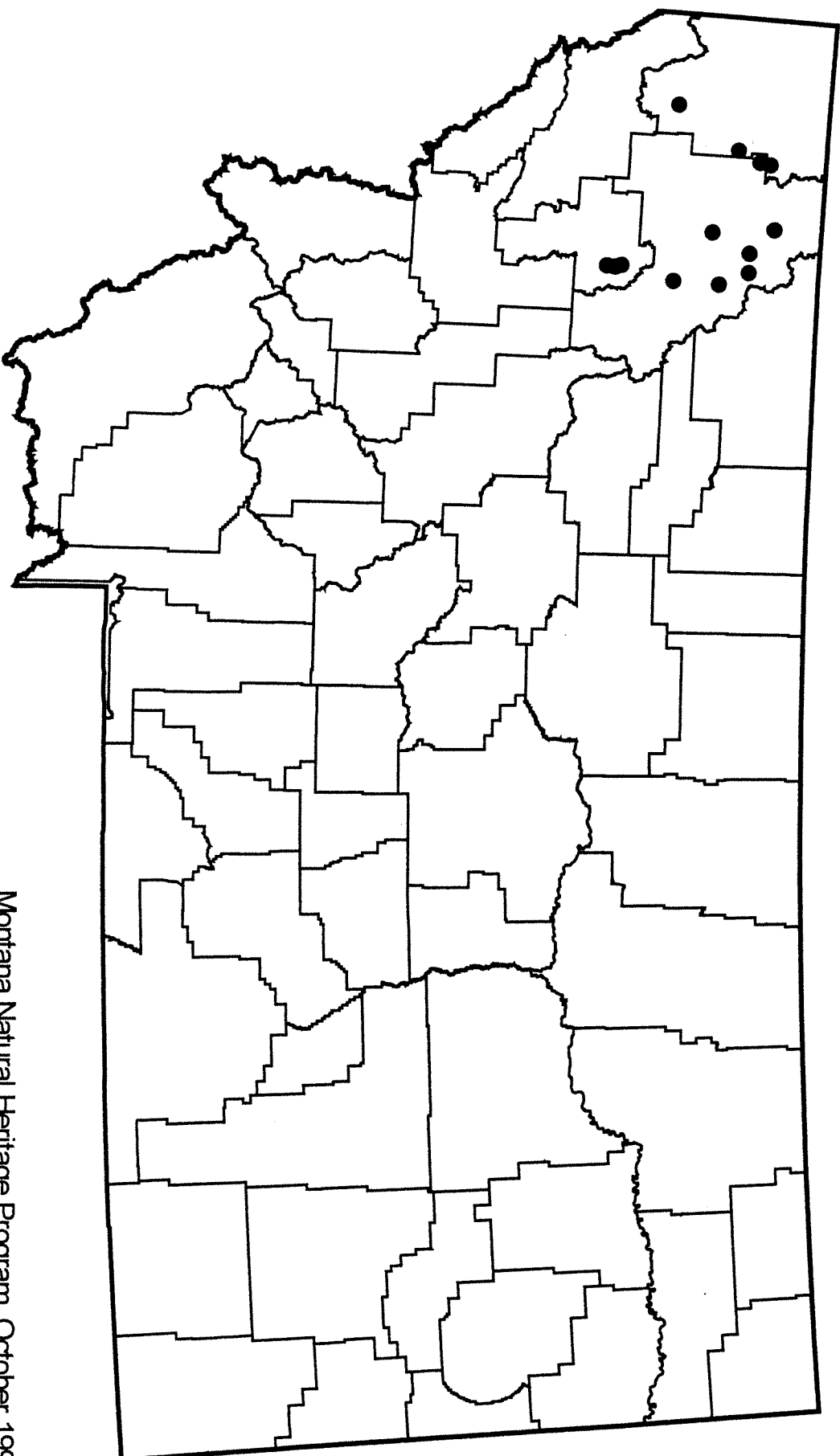
Land Ownership Summary:

CORPORATE TIMBERLANDS
FLATHEAD NATIONAL FOREST, HUNGRY HORSE RANGER DISTRICT
FLATHEAD NATIONAL FOREST, SWAN LAKE RANGER DISTRICT
FLATHEAD NATIONAL FOREST, TALLY LAKE RANGER DISTRICT
GLACIER NATIONAL PARK
KOOTENAI NATIONAL FOREST, FISHER RIVER RANGER DISTRICT
KOOTENAI NATIONAL FOREST, FORTINE RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
SWAN RIVER PROPOSED RESEARCH NATURAL AREA
SWAN RIVER STATE FOREST

---REFERENCES---

Montana Distribution
of

Eriophorum gracile (Slender Cottongrass)



Montana Natural Heritage Program, October 1996

Eupatorium occidentale (Hook.) King & H.E. Robins.
(Western Boneset)

Family: ASTERACEAE

Global rank: G4 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status:

Description: Western boneset is a rhizomatous perennial herb with clustered stems, often woody at the base, and 15-70 cm tall. The alternate leaves are triangular or ovate in outline and 2-7 cm long with toothed margins; the lower leaves are reduced and early deciduous; the lower leaf surfaces have small unstalked glands. The flowering heads are borne in an open, branched inflorescence; the involucre bracts are 3-5 mm long and mostly all equal in length; the heads lack ray flowers, and there are 9-21 purple or pink disk flowers in each head. The top of the "seed" (achene) bears a tuft of numerous fine bristles. Flowering in August.

This species could be confused with *BRICKELLIA GRANDIFLORA* or *SAUSSUREA AMERICANA*, but both of these have involucre bracts in many rows of different lengths.

Global range: Central WA, ID, and w. MT, s. to CA and UT. Peripheral.

State range: Bitterroot Mtns. and Sapphire Mtns.

Montana counties: Mineral, Ravalli

Habitat: Rocky outcrops and slopes in the montane and lower subalpine zones. Elev. 5500-7800 ft.

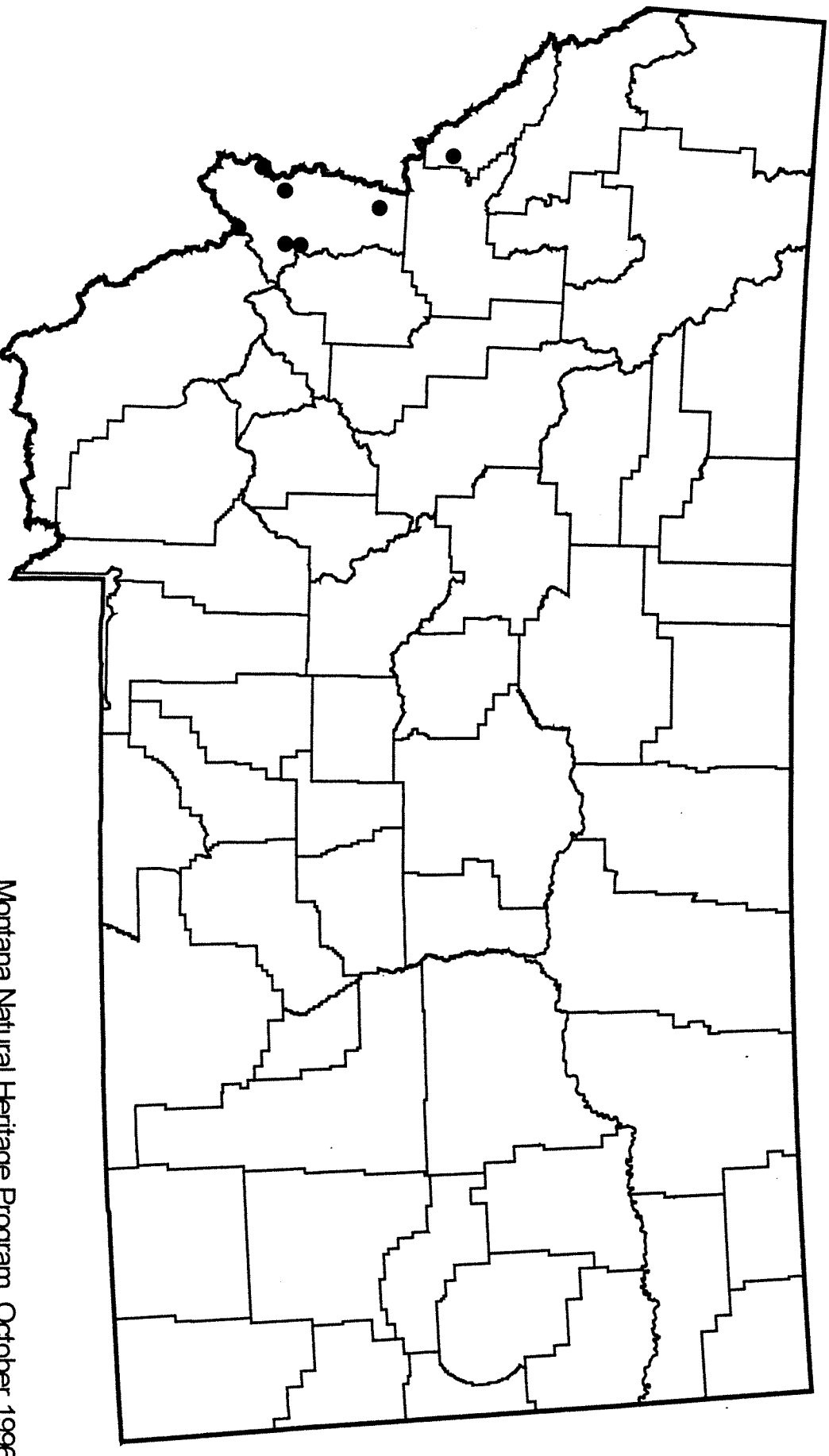
Land Ownership Summary:

BITTERROOT NATIONAL FOREST, DARBY RANGER DISTRICT
BITTERROOT NATIONAL FOREST, STEVENSVILLE RANGER DISTRICT
BITTERROOT NATIONAL FOREST, SULA RANGER DISTRICT
BITTERROOT NATIONAL FOREST, WEST FORK RANGER DISTRICT
CORPORATE TIMBERLANDS
SELWAY-BITTERROOT WILDERNESS

---REFERENCES---

Montana Distribution
of

Eupatorium occidentale (Western Boneset)



Montana Natural Heritage Program, October 1996

Gentianopsis macounii (Holm) Iltis
(Macoun's Gentian)

Family: GENTIANACEAE

Global rank: G5 USFS Region 1 status: PROPOSED SENSITIVE
State rank: S1 USFWS status:
 BLM status:

Description: Macoun's gentian is a glabrous annual with erect, simple to few-branched stems, 5-50 cm (2-16 in) high. Basal leaves, 2-3 cm (ca. 1 in) long, are lance-shaped with blunt tips, while the opposite stem leaves are narrower with pointed tips. A solitary, long-stalked flower occurs at the stem tip, while others may arise from the upper leaf axils. The calyx, 15-25 mm long, has 4 pointed lobes and small, white bumps at the base. The deep blue, tubular corolla, 2-5 cm (1-2 in) long, has 4 broad, spreading, fringed lobes. The 4 stamens have hairs at midlength. The fruit is a stalked, narrowly elliptic, many-seeded capsule, 12-25 mm long. Flowering in August, fruiting in early September.

Gentianopsis detonsa is very similar but lacks the small white bumps at the base of the calyx.

Global range: Yukon to Que., south to B.C., MT, and ND. Peripheral.

State range: Front Range.

Montana counties: Glacier, Teton

Habitat: Wet, organic soil of calcareous fens in the valleys and foothills zone. Elev.
4600-4800 ft.

Land Ownership Summary:

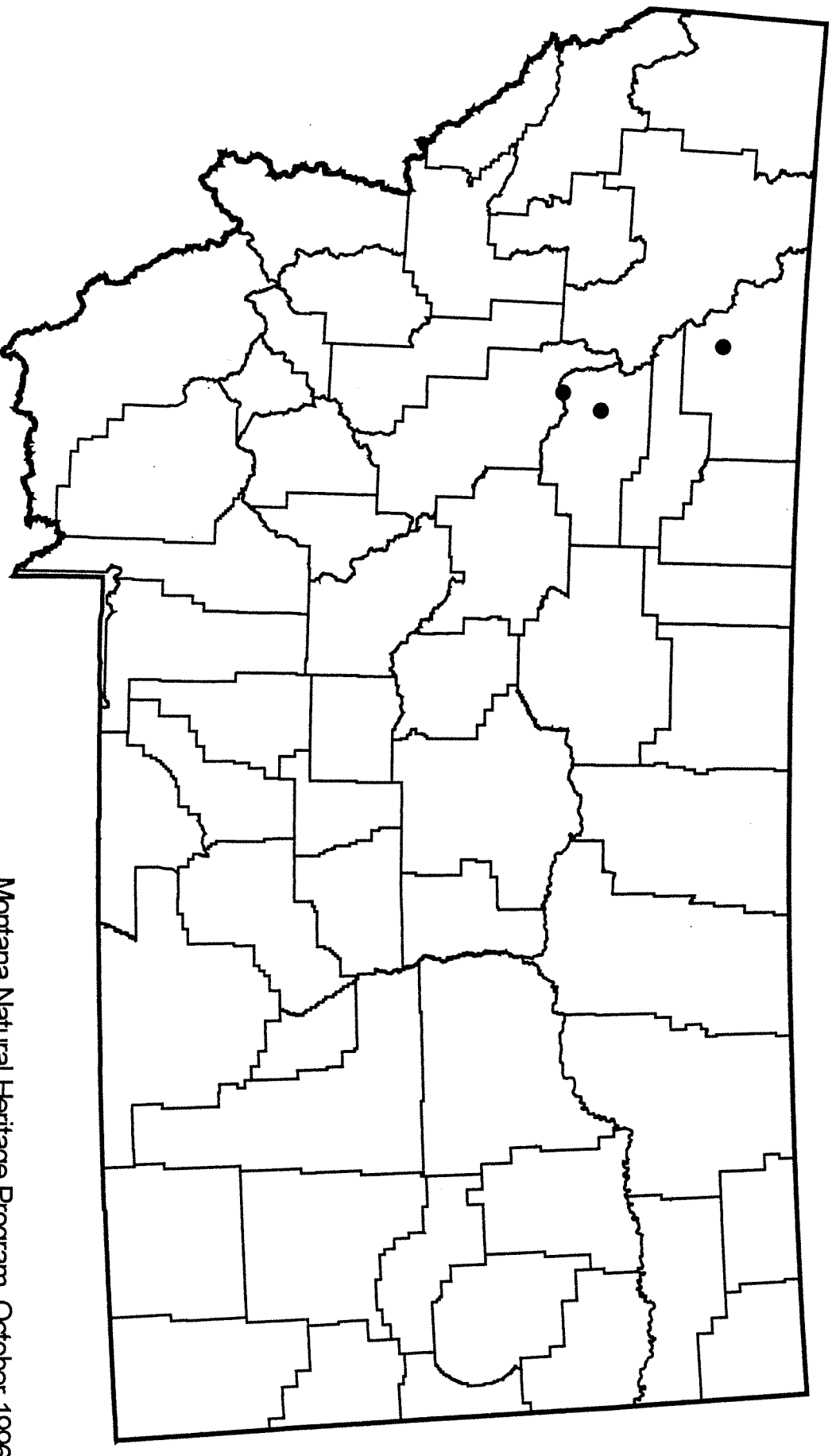
BLACKFEET INDIAN RESERVATION
LEWIS & CLARK NATIONAL FOREST, ROCKY MOUNTAIN RANGER DISTRICT
PINE BUTTE SWAMP PRESERVE
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
WAGNER BASIN RESEARCH NATURAL AREA

---REFERENCES---

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Montana Distribution
of

Gentianopsis macourii (Macoun's Gentian)



Montana Natural Heritage Program, October 1996

Gentianopsis simplex (Gray) Iltis
(Hiker's Gentian)

Family: GENTIANACEAE

Global rank: G4 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status: WATCH

Description: Hiker's gentian has erect, usually simple stems that are 10-20 cm tall. The 2-5 pairs of opposite leaves are broadly lance-shaped to ovate, 1-6 cm long, the upper being longer and narrower; herbage is glabrous. Flowers are solitary at the ends of the stems; the calyx is 15-20 mm long with four deep lobes at the top; the deep blue funnel-shaped corolla is 20-40 mm long, four-parted, and lobed nearly half its length; the lobes have small teeth along the sides but are rounded and entire-margined at the tip; the notches between the lobes are not plaited or fringed. This species can be distinguished from the more common G. DETONSA by the unbranched stems and entire-margined tips of the corolla lobes. The latter species is most often in soils derived from calcareous parent material. Flowering in July and August.

This species can be distinguished from the more common G. DETONSA by the unbranched stems and entire-margined tips of the corolla lobes.

Global range: Cascades of Oregon from Deschutes Co. s. to the Sierra Nevada of c. CA, and e. through Or to c. ID and w. and s.-central MT. Peripheral.

State range: Absaroka-Beartooth Mtns., Beaverhead Mtns., and Bitterroot Range.

Montana counties: Beaverhead, Carbon, Missoula

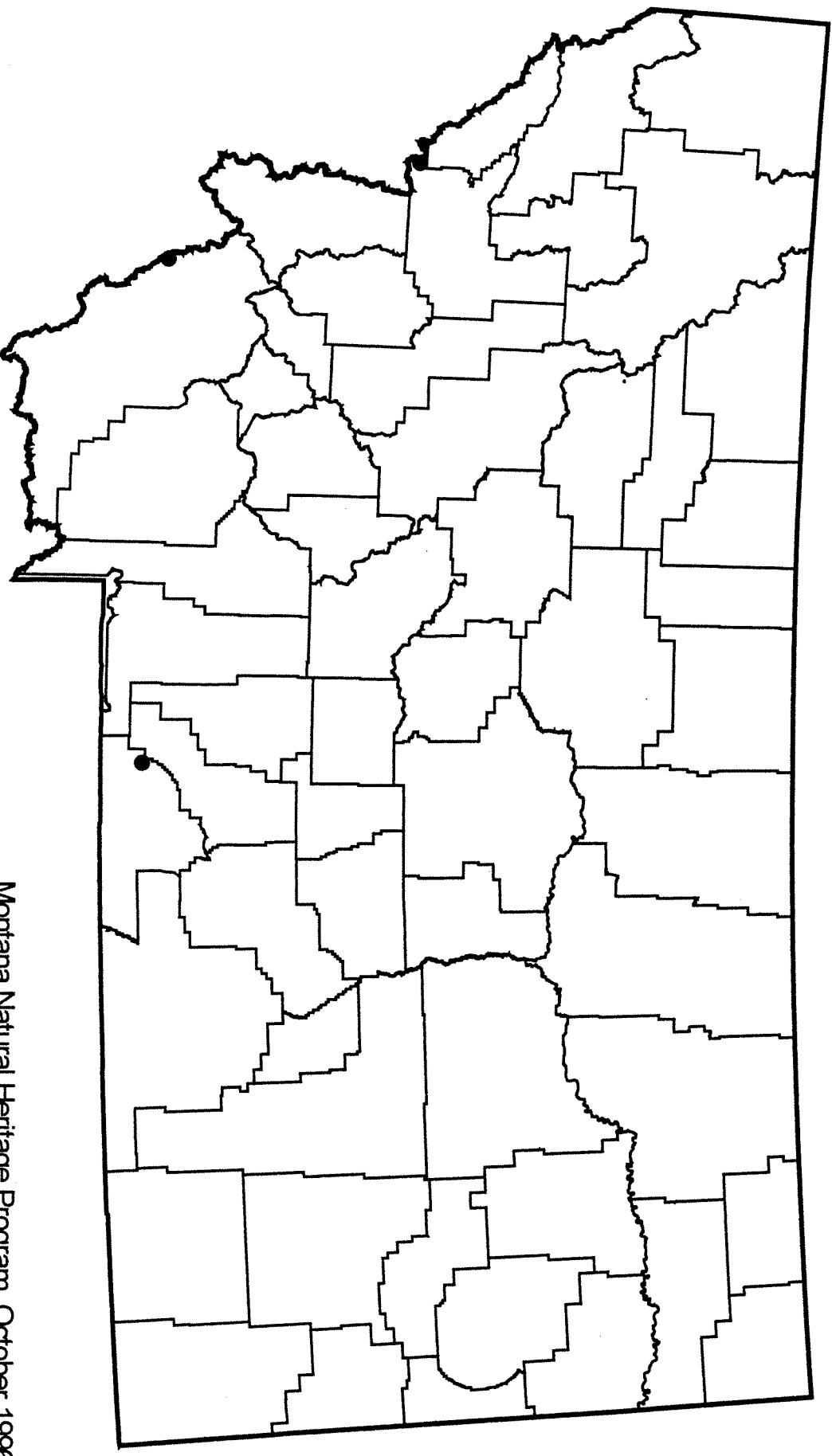
Habitat: Fens, meadows, and seeps, usually in areas of crystalline parent material, in the montane and subalpine zones. Elev. 4460-8400 ft.

Land Ownership Summary:
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, WISDOM RANGER DISTRICT
CORPORATE TIMBERLANDS
CUSTER NATIONAL FOREST, BEARTOOTH RANGER DISTRICT

---REFERENCES---

Montana Distribution
of

Gentianopsis simplex (Hiker's Gentian)



Montana Natural Heritage Program, October 1996

Glossopetalon nevadense Gray
(Spiny Greenbush)

Family: CROSSOSOMATACEAE

Global rank: G5?Q USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status:

Description: Spiny greenbush is a profusely branched, greenish-barked shrub, 1-2 m (3-6 ft) tall, with erect or spreading, spine-tipped, grooved stems. The alternate, narrowly lance-shaped, short-stalked leaves are 3-15 mm long with entire margins. Foliage is gray-green and glabrous. 1-few, short-stalked flowers arise from the axils of the upper leaves or the naked nodes near the stem tips. Some flowers have both styles and stamens (bisexual), while others have only styles (female). Each flower has 5 spreading sepals, ca. 2 mm long, and 4-6 narrowly lance-shaped, white petals, 4-9 mm long. Bisexual flowers have 5 stamens. The leathery, egg-shaped, 1-seeded fruit is ca. 3 mm long.

PACHISTIMA MYRSINITES is in the same family but has opposite, evergreen leaves.

Global range: ID and MT to CA and AZ. Peripheral.

State range: Bitterroot Mtns.

Montana counties: Ravalli

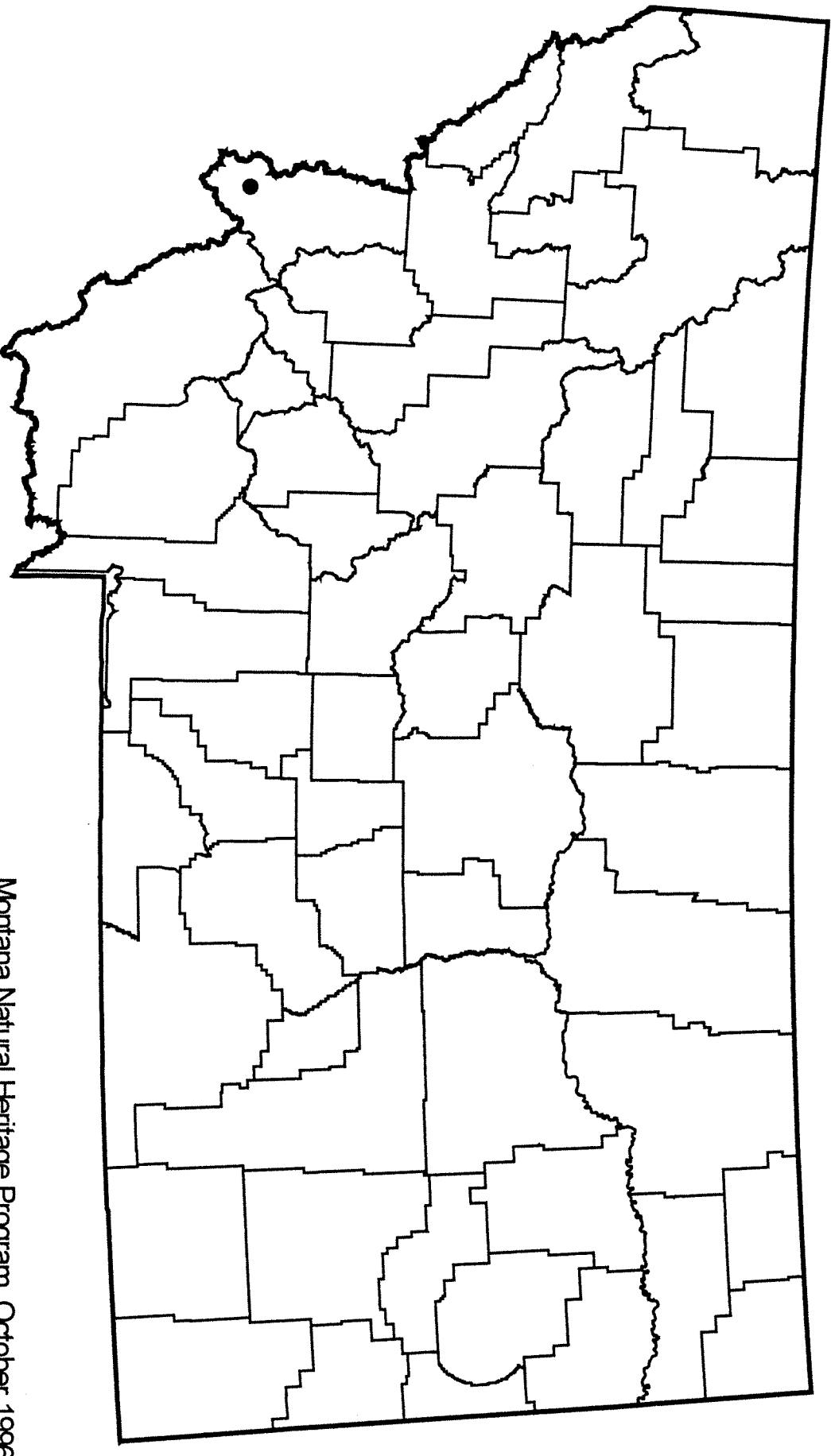
Habitat: Rock outcrops in dry forest of the lower montane zone. Elev. 4500-4600 ft.

Land Ownership Summary:
BITTERROOT NATIONAL FOREST, WEST FORK RANGER DISTRICT

---REFERENCES---

Montana Distribution
of

Glossopetalon nevadense (Spiny Greenbush)



Montana Natural Heritage Program, October 1996

Goodyera repens (L.) R. Br. ex Ait. f.
(Northern Rattlesnake-plantain)

Family: ORCHIDACEAE

Global rank: G5 USFS Region 1 status: SENSITIVE
State rank: S2S3 USFWS status:
BLM status:

Description: Northern rattlesnake-plantain is a herbaceous perennial with unbranched stems, 1-2 dm (4-8 in) high, from extensive rhizomes. The mostly basal leaves have a broad petiole, 5-15 mm long, and an elliptic blade, 15-30 cm (ca. 1 in) long. Leaves are dark green, and the stem is glandular above. Sessile flowers are borne on one side of the upper stem. The white to pale green flowers consist of a hood-like upper petal, 3-4 mm long, and a pouched lower petal, ca. 2 mm deep, with a sepal on each side. The corolla arises from the top of the oblong ovary. The club-shaped many seeded capsule is ca. 1 cm long. Flowering in August.

The inflorescence of GOODYERA OBLONGIFOLIA is mostly greater than 6 cm (2 in) long, and the leaf blades are more than 3 cm long and generally have a broad, white midvein.

Global range: Circumboreal south in N. America to NC, TN, SD, NM, AZ and BC.
Sparse.

State range: Little Belt Mtns. and Lewis Range.

Montana counties: Fergus, Flathead, Judith Basin, Meagher, Wheatland

Habitat: Often mossy soil of moist, mature Douglas-fir forest in the montane zone. Elev.
4400-6740 ft.

Land Ownership Summary:

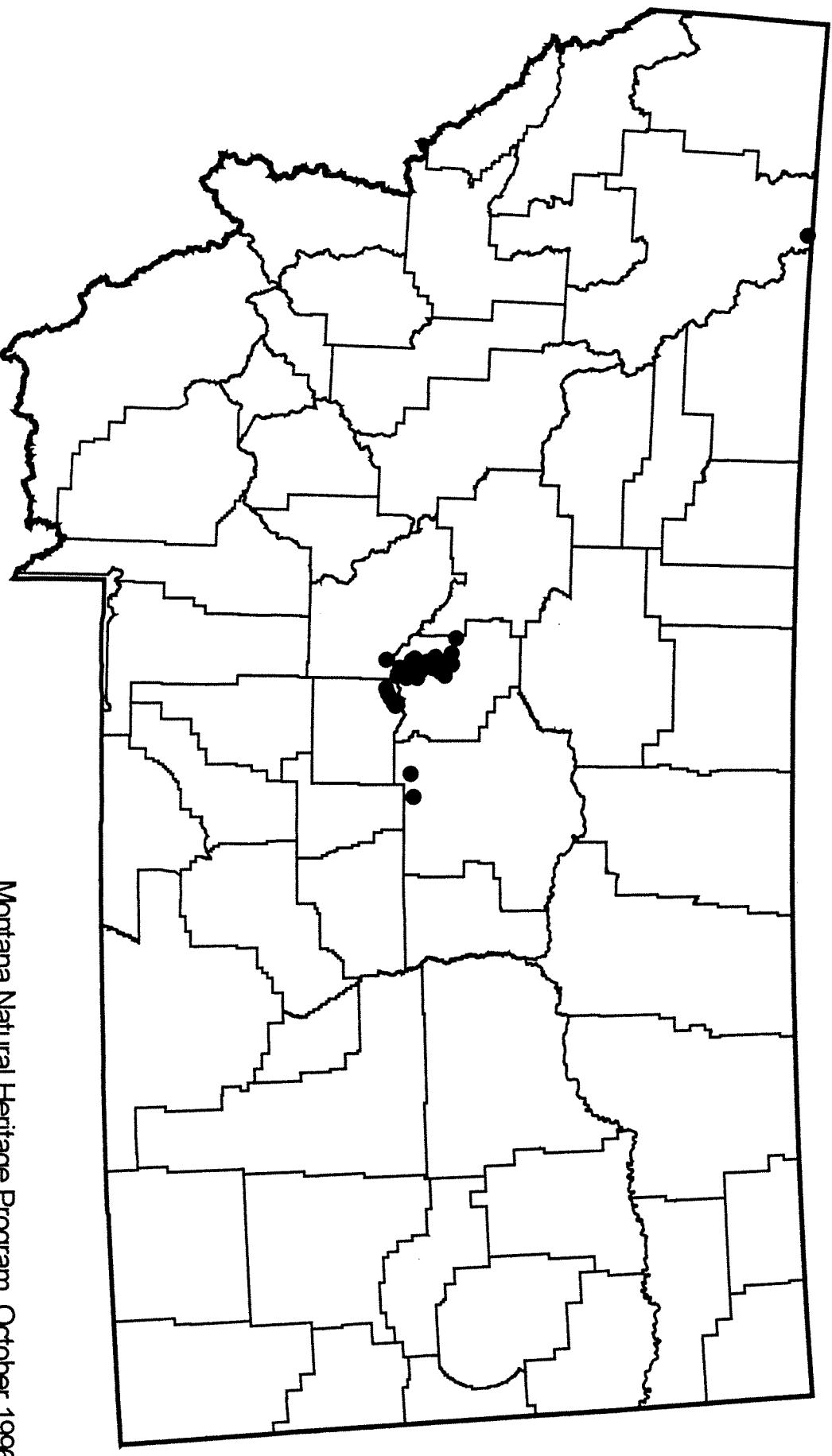
GLACIER NATIONAL PARK
LEWIS & CLARK NATIONAL FOREST, JUDITH RANGER DISTRICT
LEWIS & CLARK NATIONAL FOREST, KINGS HILL RANGER DISTRICT
LEWIS & CLARK NATIONAL FOREST, MUSSELSHELL RANGER DISTRICT

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Montana Distribution
of

Goodyera repens (Northern Rattlesnake-plantain)



Montana Natural Heritage Program, October 1996

Grindelia howellii Steyermark
(Howell's Gum-weed)

Family: ASTERACEAE

Global rank: G3 USFS Region 1 status: SENSITIVE
State rank: S2S3 USFWS status:
 BLM status:

Description: Howell's gumweed is a short-lived perennial with stems up to 90 cm that are woody at the base and clustered on a taproot. The basal leaves are lance-shaped, broadest toward the tip, and up to 20 cm long; the clasping stem leaves are reduced in size and entire-margined, or with shallow ill-defined teeth; herbage is resinous and glandular; stem is glandular-haired, and usually also has some long, soft hairs. Flowering heads are borne in a terminal, open, leafy inflorescence; numerous, narrow, involucre bracts are resinous and have green, recurved tips; yellow rays (petal-like outer flowers) are about 1 cm long. "Seeds" (achenes) are flared at the top, with a few stiff bristles that are easily removed. Flowering in July and August.

This species is very similar to G. NANA and G. SQUARROSA. It is distinguished by having glandular, often hairy rather than glabrous, stems.

Global range: Northern ID, w.-central MT. Regional endemic.

State range: Blackfoot and Clearwater river drainages.

Montana counties: Lake, Missoula, Powell

Habitat: Vernal moist, lightly disturbed soil adjacent to ponds and marshes as well as similar human-created habitats such as roadsides and grazed pastures. Elev. 3320-5960 ft.

Land Ownership Summary:

BLACKFOOT RIVER CORRIDOR PRESERVE
BLACKFOOT-CLEARWATER WILDLIFE MANAGEMENT AREA
BLACKLEAF WILDLIFE MANAGEMENT AREA
BLM: BUTTE DISTRICT, GARNET RESOURCE AREA
CORPORATE TIMBERLANDS
FLATHEAD NATIONAL FOREST, SWAN LAKE RANGER DISTRICT
LOLO NATIONAL FOREST, SEELEY LAKE RANGER DISTRICT
LUBRECHT STATE EXPERIMENTAL FOREST
MONTURE FISHING ACCESS SITE
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
STATE LAND - UNDESIGNATED
UNIVERSITY OF MONTANA LAND - BANDY RANCH

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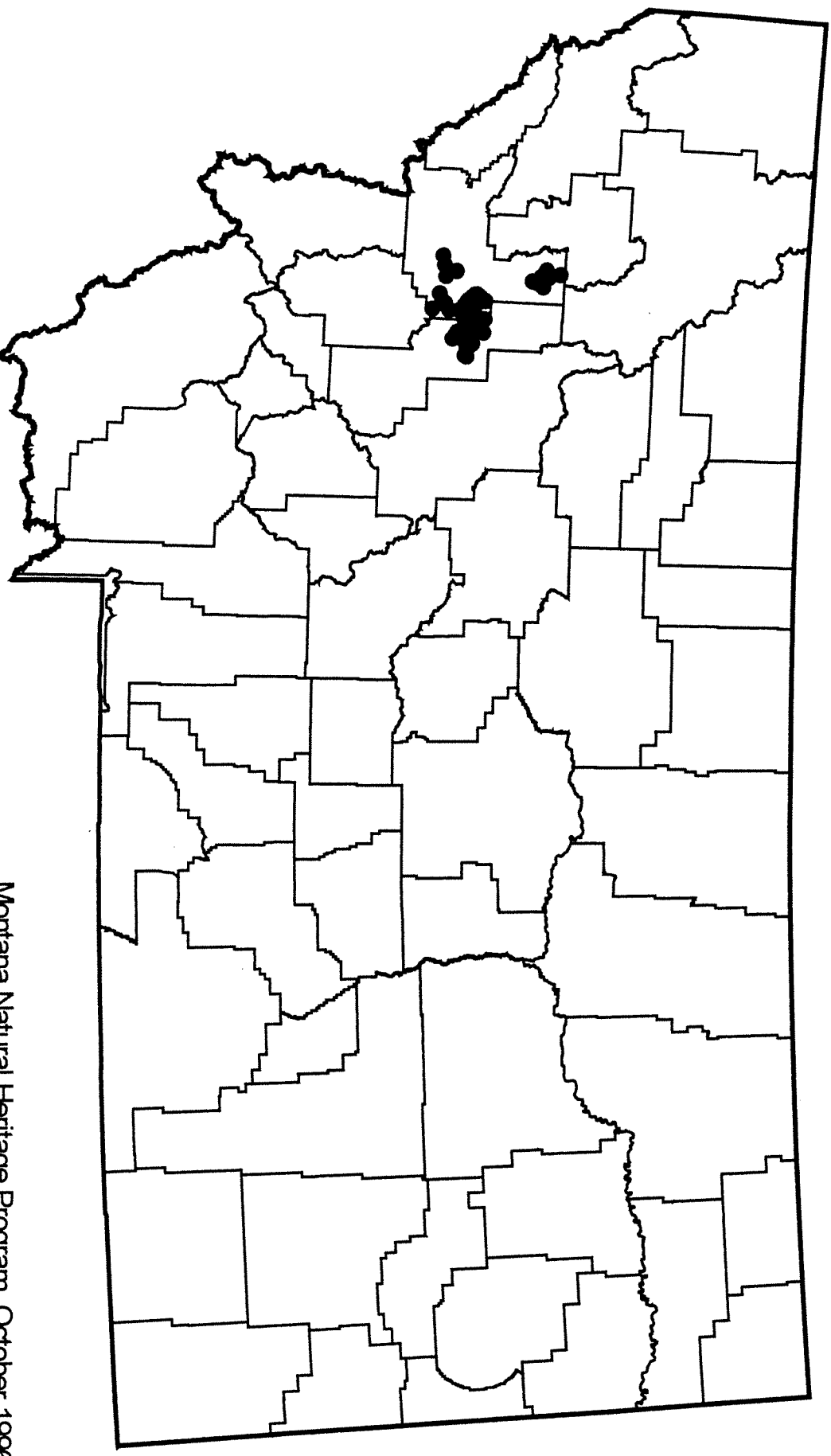
Steyermark, J. A. 1934. Studies in GRINDELIA. II. A monograph of the North American species of the genus GRINDELIA. Ann. Mo. Bot. Gard. 21: 433-608.

U.S. Fish and Wildlife Service. 1980. Review of status: GRINDELIA HOWELLII. [Unpublished report]. 13 pp.

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Montana Distribution
of

Grindelia howellii (Howell's Gum-weed)



Montana Natural Heritage Program, October 1996

Halenia deflexa ssp *deflexa*
(Spurred Gentian)

Family: GENTIANACEAE

Global rank:	G5TU	USFS Region 1 status:	PROPOSED SENSITIVE
State rank:	S2	USFWS status:	
		BLM status:	

Description: Spurred gentian is a glabrous annual herb with erect, simple or branched stems, 5-30 cm (2-12 in) high. Opposite, lance-shaped leaves, 2-4 cm long, have entire margins; the basal have short petioles, while the upper are sessile. Loose clusters of 2-9 yellowish to purplish green flowers arise from the stem tips and the axils of the upper leaves. Each flower has 4 narrow sepals, ca 5 mm long, and a broadly tubular, deeply 4-lobed corolla, 6-12 mm long, with a spur at the base of each lobe. The cone-shaped seed capsule, protrudes beyond the corolla at maturity. Flowering in July.

The 4-lobed, spurred corolla is diagnostic.

Global range: B.C. to Newf., south to NY, IL, MN, SD, and MT. Peripheral.

State range: Salish Mtns. and Whitefish Range.

Montana counties: Flathead, Lincoln

Habitat: Moist, often moderately disturbed soil of openings and meadows in coniferous forest in the valleys and montane zone. Elev. 3000-4800 ft.

Land Ownership Summary:

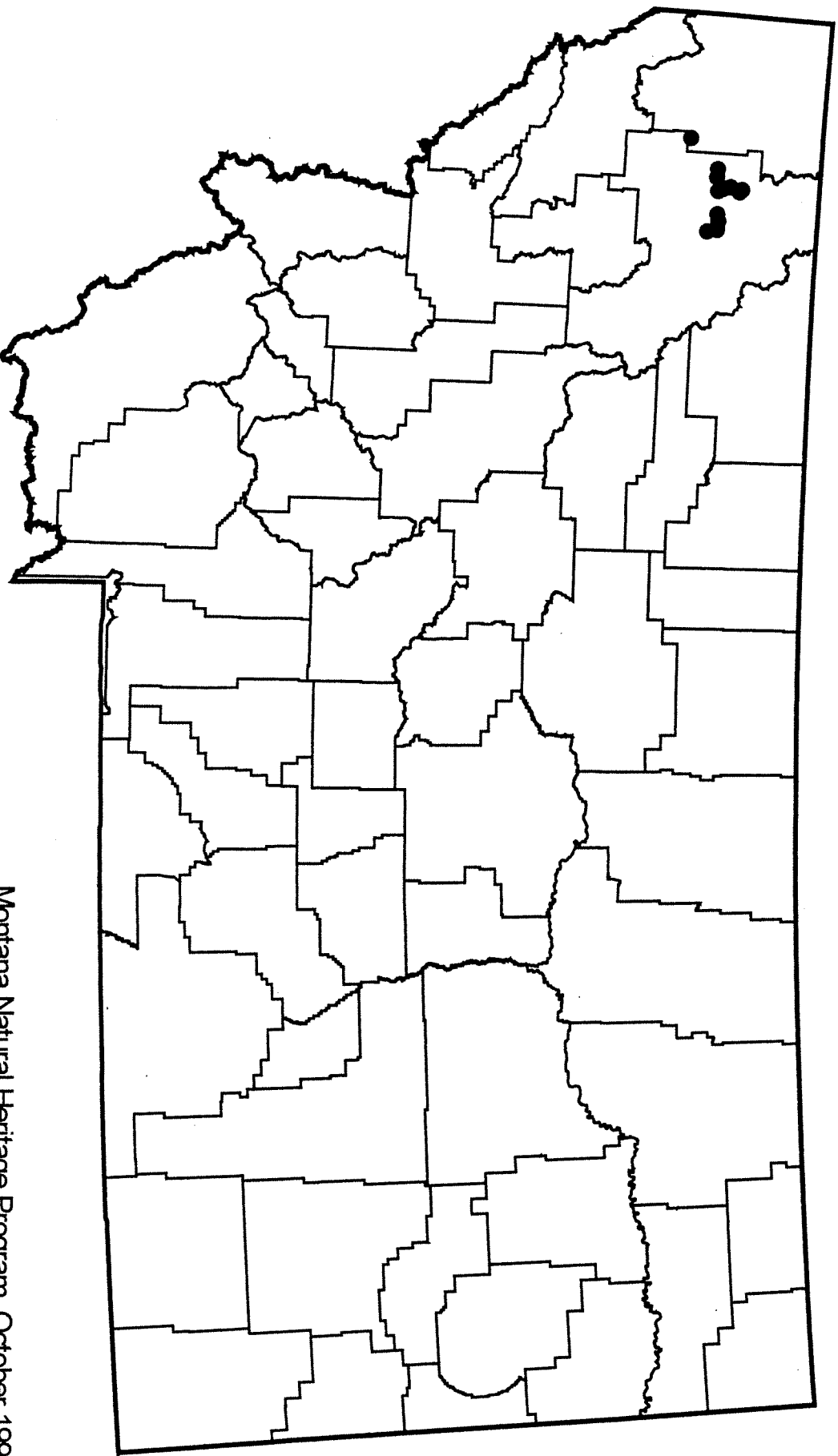
CORPORATE TIMBERLANDS
FLATHEAD NATIONAL FOREST, GLACIER VIEW RANGER DISTRICT
FLATHEAD NATIONAL FOREST, TALLY LAKE RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
STILLWATER STATE FOREST
WHITEFISH SPRUCE SWAMP CONSERVATION EASEMENT

---REFERENCES---

Barker, W. T. 1971. Vascular plants new to North Dakota. *Rhodora* 73:793.

Montana Distribution
of

Halenia deflexa ssp *deflexa* (Spurred Gentian)



Montana Natural Heritage Program, October 1996

Halimolobos perplexa var lemhiensis C.L. Hitchc.
(Puzzling Rockcress)

Family: BRASSICACEAE

Global rank: G4T4 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status:

Description: Puzzling rockcress is a rosette-forming, short-lived perennial with 1-several erect stems, 15-40 cm (6-16 in) high, from a simple or branched rootcrown. The lance-shaped basal leaves, 2-4 cm (ca. 1 in) long, have petioles and deeply toothed to shallowly lobed margins. Upper stem leaves are smaller and sessile. Foliage is covered with branched hairs. Stalked flowers occur at the stem tips in a compact, unbranched inflorescence that expands as the fruits mature. Each flower has 4 separate sepals, 4 separate, white petals, 3-6 mm long, and 4 long and 2 short stamens. The style is ca. 1 mm long. The hairy, linear capsules (siliques), 1-2 cm long with a circular cross section, are borne on erect to ascending stalks, 10-17 mm long. Flowering in May and June, fruiting in June.

Leaves of H. VIRGATA clasp the stem and the siliques are glabrous. Species of ARABIS usually have flattened siliques.

Global range: Salmon River drainage, Lemhi Co., ID and sw. MT.

State range: Bitterroot Mtns.

Montana counties: Ravalli

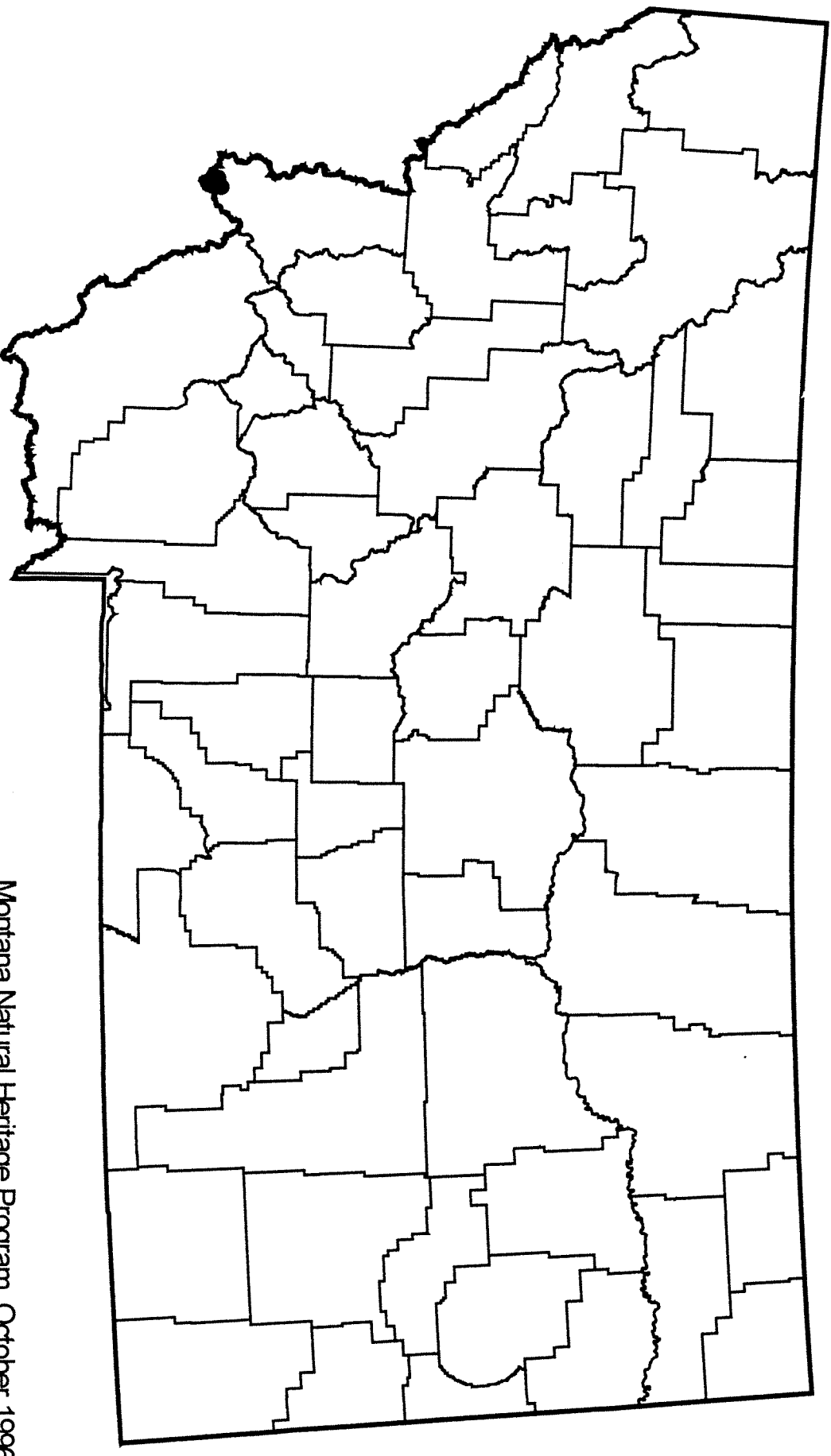
Habitat: Sparsely vegetated, gravelly soil of grasslands, shrublands or mountain mahogany woodlands, usually on slopes in the montane zone. Elev. 5800-7400 ft.

Land Ownership Summary:
BITTERROOT NATIONAL FOREST, WEST FORK RANGER DISTRICT

---REFERENCES---

Montana Distribution
of

Halimolobos perplexa v. *lemhiensis* (Puzzling Rockcress)



Montana Natural Heritage Program, October 1996

Haplopappus aberrans (A. Nels.) Nesom & Morgan
(Idaho Golden-weed)

Family: ASTERACEAE

Global rank: G3 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status:

Description: Idaho golden-weed is a perennial herb with several slender stems, 5-25 cm (2-10 in) high, from a branched rootcrown. Basal leaves, up to 10 cm (4 in) long, have sharply toothed margins, while upper leaves are sessile and narrower. Foliage is glandular hairy. 1-few short-stalked flower heads are borne in the axils of the uppermost reduced leaves (bracts). Each head has 3-4 series of narrow, green-tipped, overlapping, glandular involucre bracts, up to 1 cm high. There are 25-50 reddish-yellow disk flowers, 6-8 mm long, and ray flowers are lacking. The elongate seeds (achenes) are topped by numerous, dingy-white bristles (pappus) of unequal length. Flowering July and August.

There are many species of HAPLOPAPPUS; a hand lens and technical key are necessary for positive identification. HAPLOPAPPUS CARTHAMOIDES also has sharply toothed leaves and lacks ray flowers, but its involucre bracts are 15-30 mm high.

Global range: Central ID and sw. MT. Regional endemic.

State range: Bitterroot Mtns.

Montana counties: Ravalli

Habitat: Crevices of rock outcrops in dry coniferous forests in the montane zone. Elev. 4500-6000 ft.

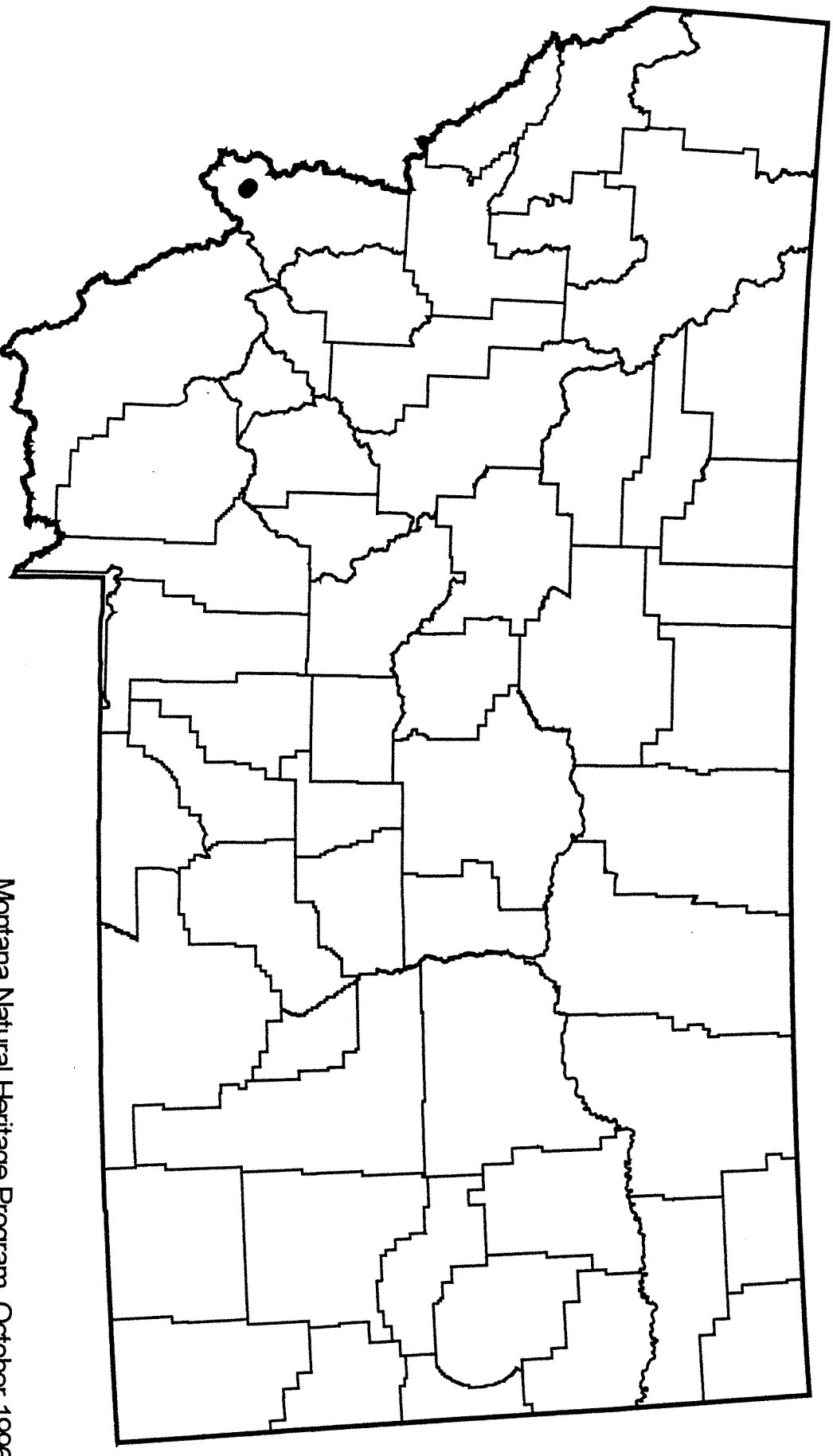
Land Ownership Summary:
BITTERROOT NATIONAL FOREST, WEST FORK RANGER DISTRICT

---REFERENCES---

Hall, H. M. 1928. The genus HAPLOPAPPUS, a phylogenetic study in the compositae. Carnegie Institution of Washington Publication No. 389, Washington D.C. 391 pp.

Montana Distribution
of

Haplopappus aberrans (Idaho Golden-weed)



Montana Natural Heritage Program, October 1996

Haplopappus macronema var macronema
(Discoid Goldenweed)

Family: ASTERACEAE

Global rank: G4T4 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status: DROPPED

Description: Discoid goldenweed is a low, rounded shrub with leafy stems 15-40 cm tall. Leaves are lance-shaped, widest above the middle, 1-3 cm long, and wavy-margined; leaves and inflorescence are glandular, while stem is densely white-hairy. Flowering heads are borne in clusters of 1-3 at the ends of branches; glandular-hairy involucre bracts are 8-15 mm long; outer are broader and more leafy than the inner; ray flowers are lacking; the 10-25 disk flowers are yellow and 8-11 mm long. The "seeds" (achenes) have numerous fine bristles on top. Flowering in late July and August.

The common H. SUFFRUTICOSUS does not have densely white-hairy stems. HAPLOPAPPUS MACRONEMA SSP LINEARIS occurs in sagebrush grasslands at lower elevations. Species of CHRYSOTHAMNUS do not have glandular flower heads. A hand lens may be needed to determine these characters.

Global range: Southeast OR to sw. MT, south to CA and UT. The range of this species as a whole is c. ID, sw MT, south to CA, UT and CO. Peripheral.

State range: Pioneer Mtns.

Montana counties: Beaverhead

Habitat: Rocky, open or sparsely wooded slopes, often in coarse talus, frequently near or above timberline. Elev. 7000-8900 ft.

Land Ownership Summary:

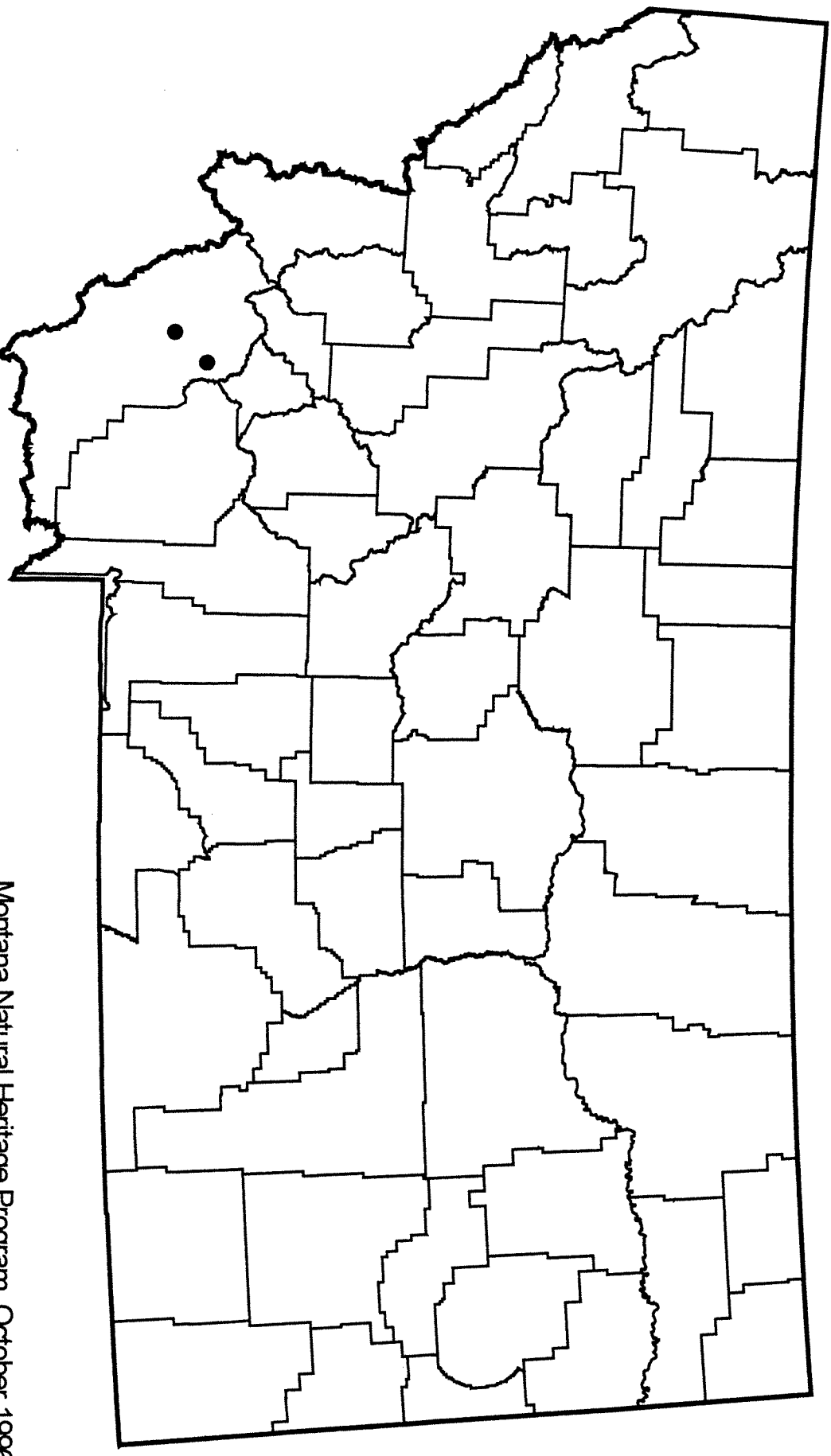
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, DILLON RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, WISE RIVER RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

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- Schassberger, L. A. 1991. Rare plant inventory of the East Pioneer Mountains, Beaverhead National Forest. Unpublished report. Montana Natural Heritage Program Helena, MT. 55 pp.
- Vanderhorst, J. P. and P. Lesica. 1994. Sensitive plant survey in the Tendoy Mountains, Beaverhead County, Montana. Unpublished report to the Bureau of Land Management, Butte District. Montana Natural Heritage Program, Helena. 59 pp. plus appendices.
- Winkler, G. 1987. Montana CHRYSOTHAMNUS. M.S. thesis. Montana State University, Bozeman. 94 pp.

Montana Distribution
of

Haplopappus macronema v. *macronema* (Discoid Golden-weed)



Montana Natural Heritage Program, October 1996

Howellia aquatilis Gray
(Water Howellia)

Family: CAMPANULACEAE

Global rank: G2 USFS Region 1 status: THREATENED
State rank: S2 USEWS status: LT
 BLM status:

Description: Water Howellia is a glabrous, much-branched, annual, aquatic herb with fragile, submerged and floating stems up to 100 cm tall. The simple, alternate (occasionally opposite or whorled) stem leaves are narrowly linear, 1-5 cm long, and entire-margined. Beneath the surface of the water, small flowers that produce seed without opening are solitary in the leaf axils; once the stems reach the surface, small, white flowers are borne in a narrow, terminal, leafy-bracted inflorescence; the white corolla is 2-3 mm long; flowering occurs on the surface of the water. The fruit, which forms below the attachment of the petals, is a capsule 1-2 cm long, containing elongate seeds up to 2-4 mm long. Flowering and fruiting from late June through August.

Vegetatively, this species resembles a small-leaved pondweed (POTAMOGETON) or a water starwort (CALLITRICHE), but the flowers in these two groups lack petals, and they have much smaller seeds. During spring and early summer it also resembles a water-parsnip (SIUM SUAVE), however, the leaves on this plant are in a basal rosette.

Global range: Northwestern MT, n. CA, n. ID, and WA; historically known in OR.
Sparse.

State range: Restricted to Swan River valley in Montana.

Montana counties: Lake, Missoula

Habitat: Submerged in quiet water of small vernal freshwater glacial pothole ponds and oxbow sloughs that generally have an annual cycle of filling and drying. Elev. 3190-4425 ft.

Land Ownership Summary:

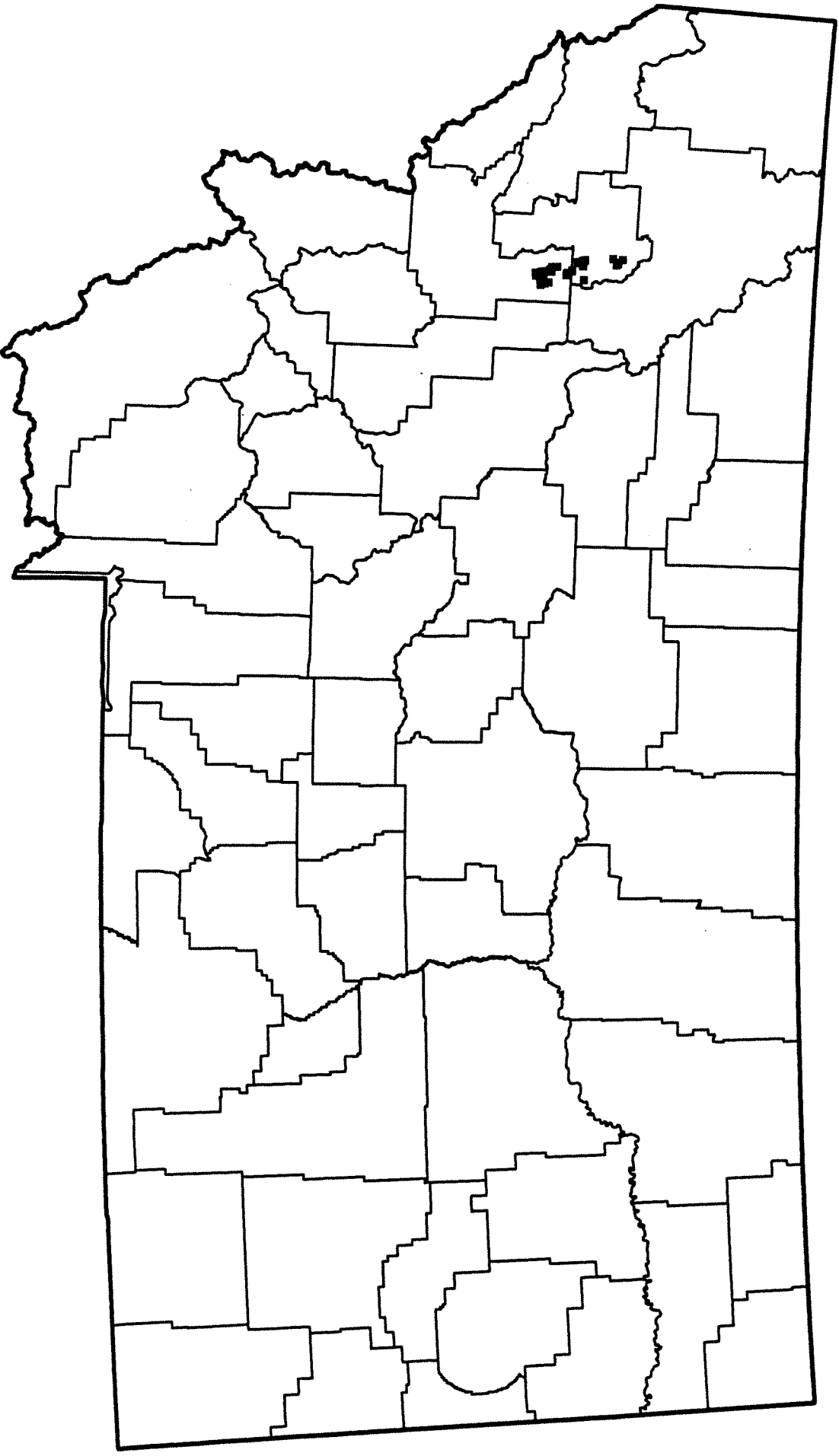
CONDON CREEK PROPOSED BOTANICAL AREA
CORPORATE TIMBERLANDS
FLATHEAD NATIONAL FOREST, SWAN LAKE RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
SWAN RIVER OXBOW PRESERVE

---REFERENCES---

- Frissell, C. A., J. T. Gangemi, and J. A. Stanford. 1995. Identifying priority areas for protection and restoration of aquatic biodiversity: A case study in the Swan River basin, Montana, USA. Open File Report No. 136-95. Flathead Lake Biological Station, The University of Montana, Polson. 51 pp.
- Lesica, P. 1990. Habitat requirements, germination behavior and seed bank dynamics of HOWELLIA AQUATILIS in the Swan Valley, Montana. Unpublished report to the Flathead National Forest. Conservation Biology Research, Helena, MT, 44 pp. plus appendix.
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- Lesica, P., R. F. Leary, F. W. Allendorf and D. E. Bilderback. 1988. Lack of genetic diversity within and among populations of an endangered plant, *HOWELLIA AQUATILIS*. *Conservation Biology* 2:275-282.
- McCune, B. 1982. Noteworthy collections - Montana: *HOWELLIA AQUATILIS*. *Madrono* 29:123-124.
- Rice, D. J. 1990. An application of restoration ecology to the management of an endangered plant, *HOWELLIA AQUATILIS*. M.S. thesis. Washington State University, Pullman, WA, 85 pp.
- Roe, L. S. and J. S. Shelly. 1992. Update to the status review of *HOWELLIA AQUATILIS*. Unpublished report to the Flathead National Forest. Montana Natural Heritage Program, Helena, MT. 51 pp.
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- Shelly, J. S. 1988. Report on the conservation status of *HOWELLIA AQUATILIS*, a candidate threatened species. Unpublished report to the U.S. Fish and Wildlife Service, Denver. Montana Natural Heritage Program, Helena, MT. 166 pp.
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- Shelly, J. S. 1988. Status review of *HOWELLIA AQUATILIS*. Unpublished report to Flathead National Forest. Montana Natural Heritage Program, Helena, MT.
- Shelly, J. S. 1989. Addendum to the status review of *HOWELLIA AQUATILIS*, Flathead National Forest, Montana. Unpublished report to the U.S. Forest Service, Region 1. Montana Natural Heritage Program, Helena, MT. 17 pp.
- Shelly, J. S. 1994. Conservation strategy, *HOWELLIA AQUATILIS*, Flathead National Forest. Unpublished report. USDA Forest Service, Northern Region. 26 pp.
- Shelly, J. S. and L. A. Schassberger. 1990. Update to the status review of *HOWELLIA AQUATILIS*: field surveys, monitoring studies, and transplant experiments, 1989. Unpublished report to the Flathead National Forest, Kalispell, MT. Montana Natural Heritage Program, Helena, MT. 50 pp.
- Shelly, J. S. and R. Mosely. 1988. Report on the conservation status of *HOWELLIA AQUATILIS*, a candidate threatened species. Unpublished report to U.S. Fish and Wildlife Service. Montana Natural Heritage Program, Helena, MT. 166 pp.
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Montana Distribution
of
Howellia aquatilis (Water Howellia)



Idahoia scapigera (Hook.) A. Nels. & J.F. Macbr.
(Scalepod)

Family: BRASSICACEAE

Global rank: G5 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
BLM status:

Description: Scalepod is a small, glabrous annual with many leafless stems up to 10 cm (4 in) high. The numerous basal leaves have a long slender petiole and narrowly elliptic blades, 5-15 mm long, with entire margins or two shallow lobes near the base. Each stem bears a single white flower at the tip. Each flower has 4 red to purple, separate sepals, ca 2 mm long, 4 separate petals of the same length, and 4 long and 2 short stamens. Flowers quickly form flattened, nearly circular fruits, 6-12 mm in diameter, with 6-12 wing-margined seeds inside. Flowering in March and April.

Species of DRABA and SUBULARIA have more than one flower (or fruit) per stem.

Global range: WA to CA, east to ID and w. MT. Peripheral.

State range: Bitterroot Mtns.

Montana counties: Ravalli

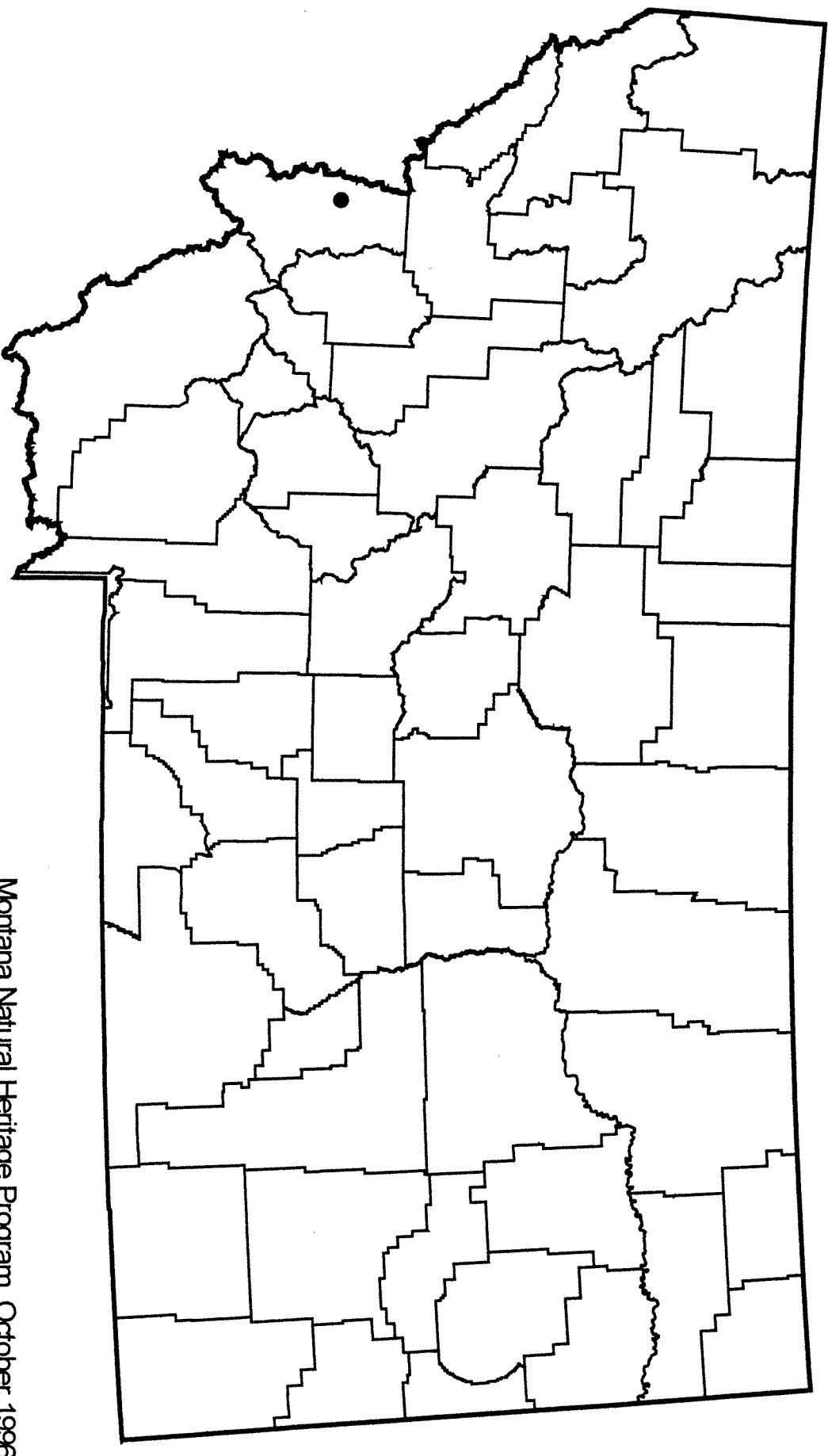
Habitat: Vernal moist, open soil on rock ledges in the lower montane zone. Elev.
4500-4600 ft.

Land Ownership Summary:
BITTERROOT NATIONAL FOREST, STEVENSVILLE RANGER DISTRICT
STATE LAND - UNDESIGNATED

---REFERENCES---

Montana Distribution
of

Idahoia scapigera (Scalepod)



Montana Natural Heritage Program, October 1996

Juncus hallii Engelm.
(Hall's Rush)

Family: JUNCACEAE

Global rank: G4G5 USFS Region 1 status: SENSITIVE
State rank: S2 USFWS status:
 BLM status:

Description: Hall's rush is a perennial with erect stems 20-30 cm tall. The leaves, which are confined to near the base of the plant, are round and up to 15 cm long with a groove on the side facing the stem; the uppermost leaf has a sheath surrounding the stem but lacks a blade. The 2-6 flowers are borne in a loosely congested inflorescence subtended by an erect leaf (bract); because this involucre leaf is erect and round, it seems to be lateral rather than terminal; the flowers have 6 undifferentiated, sharply pointed perianth segments that are light brown with membranous margins and 4-5 mm long. The seed capsules are dark brown with a lobed top; each seed is ca. 1 mm long with a distinct tail at each end. Flowering from July to August.

JUNCUS is a large and difficult genus and a technical key should be consulted. Mature fruit is necessary for positive determination. The apparently lateral inflorescence, lack of an upper leaf blade, lobed seed capsule, and tailed seeds should help distinguish this species.

Global range: Rocky Mtns., from sw. MT to CO. Peripheral.

State range: Gravelly Range, Highland Mtns., Madison Range, Swan Range, and Big Belt Mtns.

Montana counties: Madison, Meagher, Powell, Silver Bow

Habitat: Montane to subalpine, moist to dry meadows and slopes. Elev. 4000-8900 ft.

Land Ownership Summary:

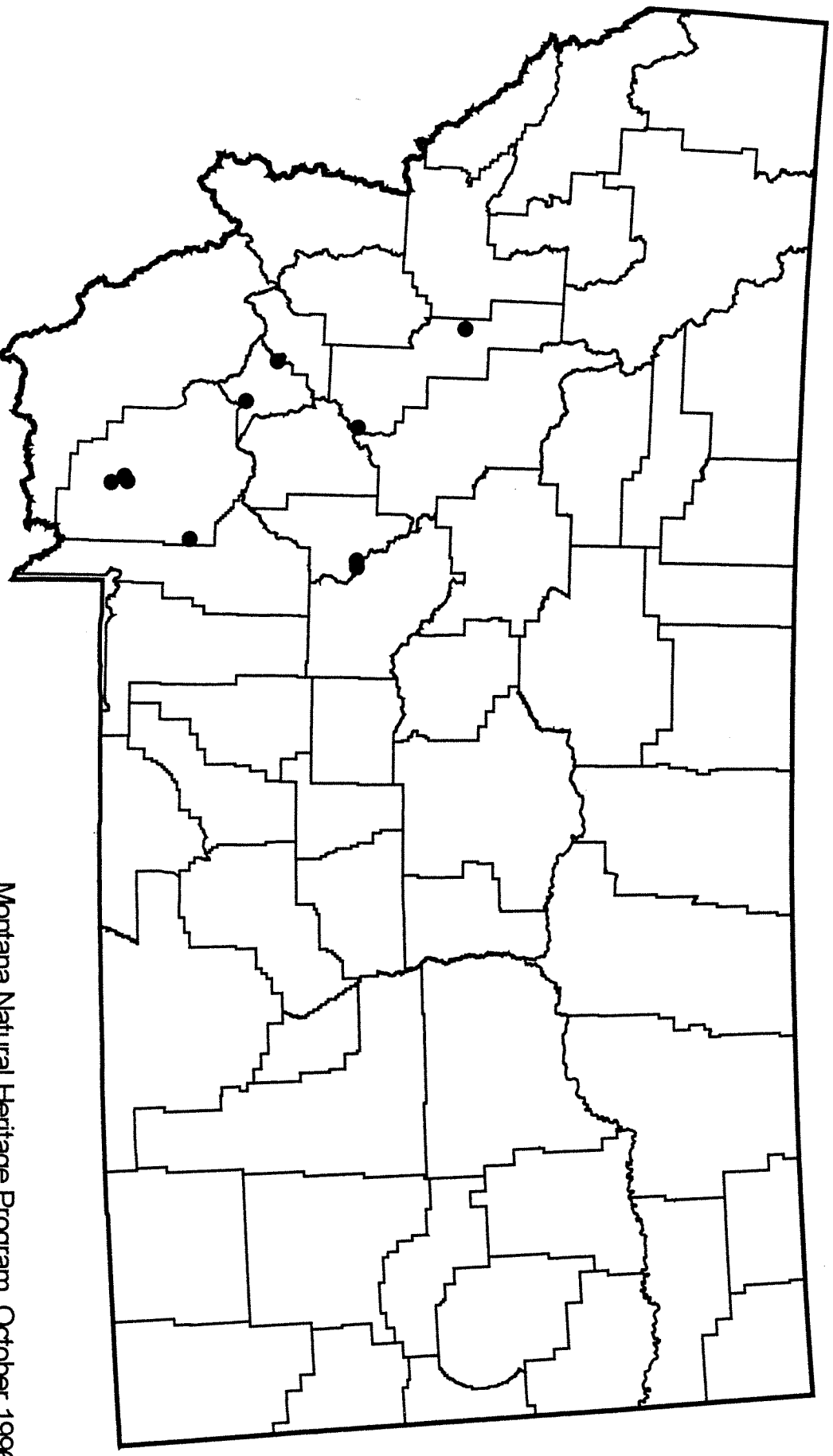
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, BUTTE RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, MADISON RANGER DISTRICT
HELENA NATIONAL FOREST, HELENA RANGER DISTRICT
HELENA NATIONAL FOREST, TOWNSEND RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

---REFERENCES---

- Lesica, P. 1992. Vascular plant and sensitive plant species inventory for the Highland Mountains, Deerlodge National Forest. Unpublished report. Montana Natural Heritage Program, Helena, MT. 21 pp. plus appendices, photographs.
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Montana Distribution
of

Juncus hallii (Hall's Rush)



Montana Natural Heritage Program, October 1996

Kobresia macrocarpa (Turcz. ex Ledeb.) Boeckl.
(Large-fruited Kobresia)

Family: CYPERACEAE

Global rank: G5 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status:

Description: Large-fruited kobresia is a tufted perennial with stems up to 20 cm high, resembling a sedge (CAREX). The slender, wiry leaves are less than 1 mm wide, and much shorter than the stem; the old, brown leaf bases are persistent at the stem base; herbage is glabrous. The flowers are borne at the end of the stem in a slender, solitary spike 4-5 mm wide and 1-2 cm long; each scale of the spike subtends 1-2 flowers, which are either male, female, or both. The 3-sided fruit (achene) is loosely wrapped with a brown scale-like structure (perigynium), 5-6 mm long. Fruit matures in late July and August.

This species could be confused with *K. BELLARDII*, *CAREX ELYNOIDES* or *C. SCIRPOIDEA*, which have narrower spikes, usually less than 4 mm wide. The former two species occur in drier habitats.

Global range: Arctic Asia and N.America, including AK, south to sc. MT, w. WY, UT and AZ. Peripheral.

State range: Beartooth Plateau.

Montana counties: Carbon

Habitat: Moist tundra, solifluction slopes, and gravelly lake shores above timberline.
Elev. 9800-9950 ft.

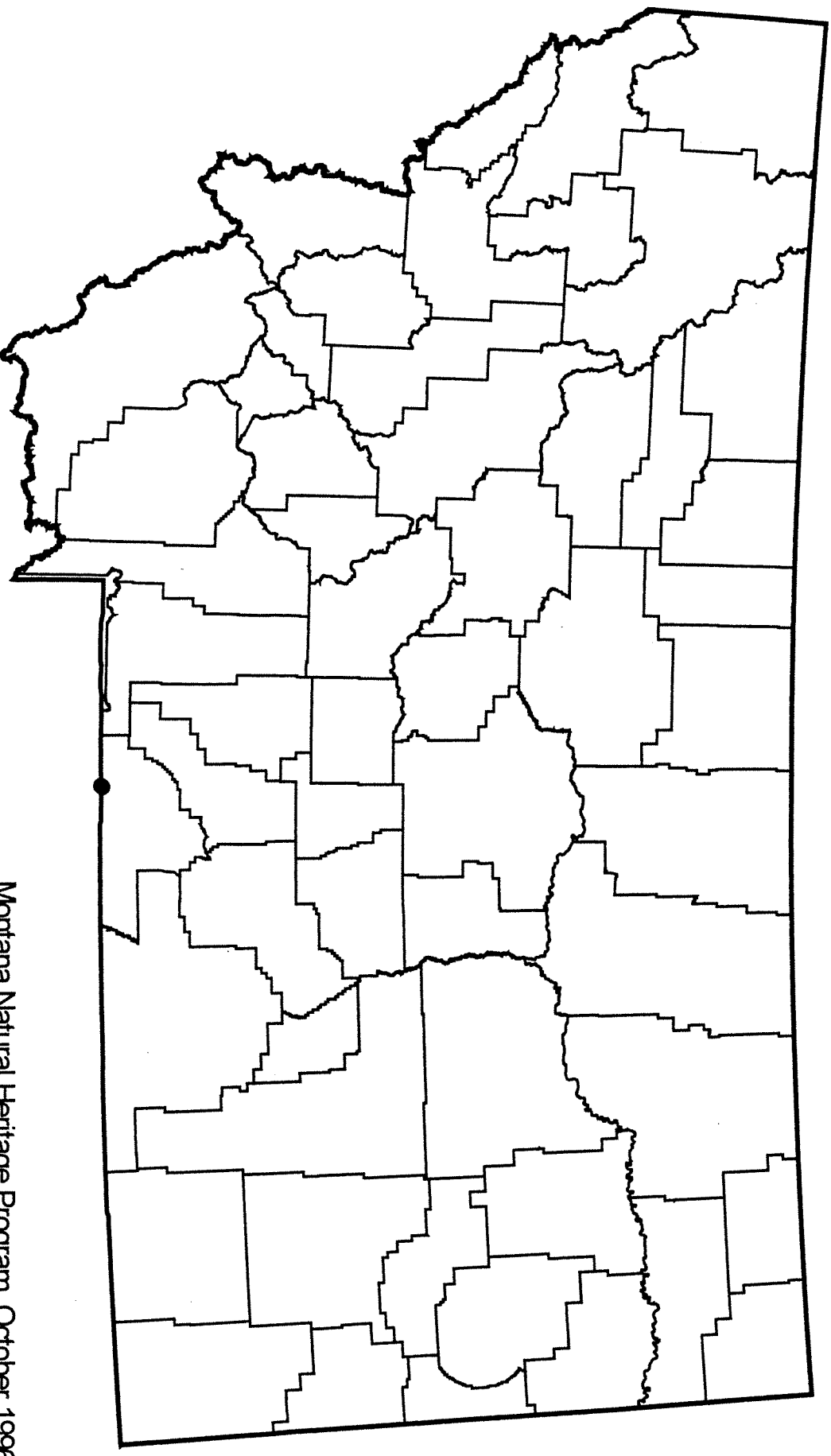
Land Ownership Summary:
CUSTER NATIONAL FOREST, BEARTOOTH RANGER DISTRICT

---REFERENCES---

Lesica, P. 1993. Vegetation and flora of the Line Creek Plateau area, Carbon County, Montana. Unpublished report to USDA Forest Service, Intermountain Research Station. Montana Natural Heritage Program, Helena. 30 pp.

Montana Distribution
of

Kobresia macrocarpa (Large-fruited Kobresia)



Montana Natural Heritage Program, October 1996

Lesquerella humilis Rollins
(Bitterroot Bladderpod)

Family: BRASSICACEAE

Global rank: G1 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status:

Description: Bitterroot bladderpod is a small, low perennial, with 1 to several unbranched stems, 2-5 cm long, from a simple taproot covered with old leaf bases. The basal leaves are 2-5 cm long and have entire-margined, ovate or elliptic blades and a long, narrow petiole; the 3-6 stem leaves are spoon-shaped and 3-7 mm long; the herbage is silvery with a dense covering of appressed, branched hairs. The small, terminal inflorescence is 3-5 flowered; the four yellow petals are 7-9 mm long. The compressed fruits (silicles) are 3-4 mm long, and wider than long. Flowering in late June and July, flowering and fruiting in July and August.

L. HUMILIS could be confused with *PHYSARIA GEYERI*, as well as other members of *LESQUERELLA*. The alpine habitat is probably the best distinguishing character. L. HUMILIS can be distinguished from other alpine species in the mustard family by the compressed fruits that are wider than long.

Global range: Endemic to Ravalli Co., MT. State endemic.

State range: Bitterroot Mtns.

Montana counties: Ravalli

Habitat: Open, rocky, granite-derived soil of dry meadows and outcrops, primarily in the subalpine and alpine zones. Elev. 6900-9500 ft.

Land Ownership Summary:

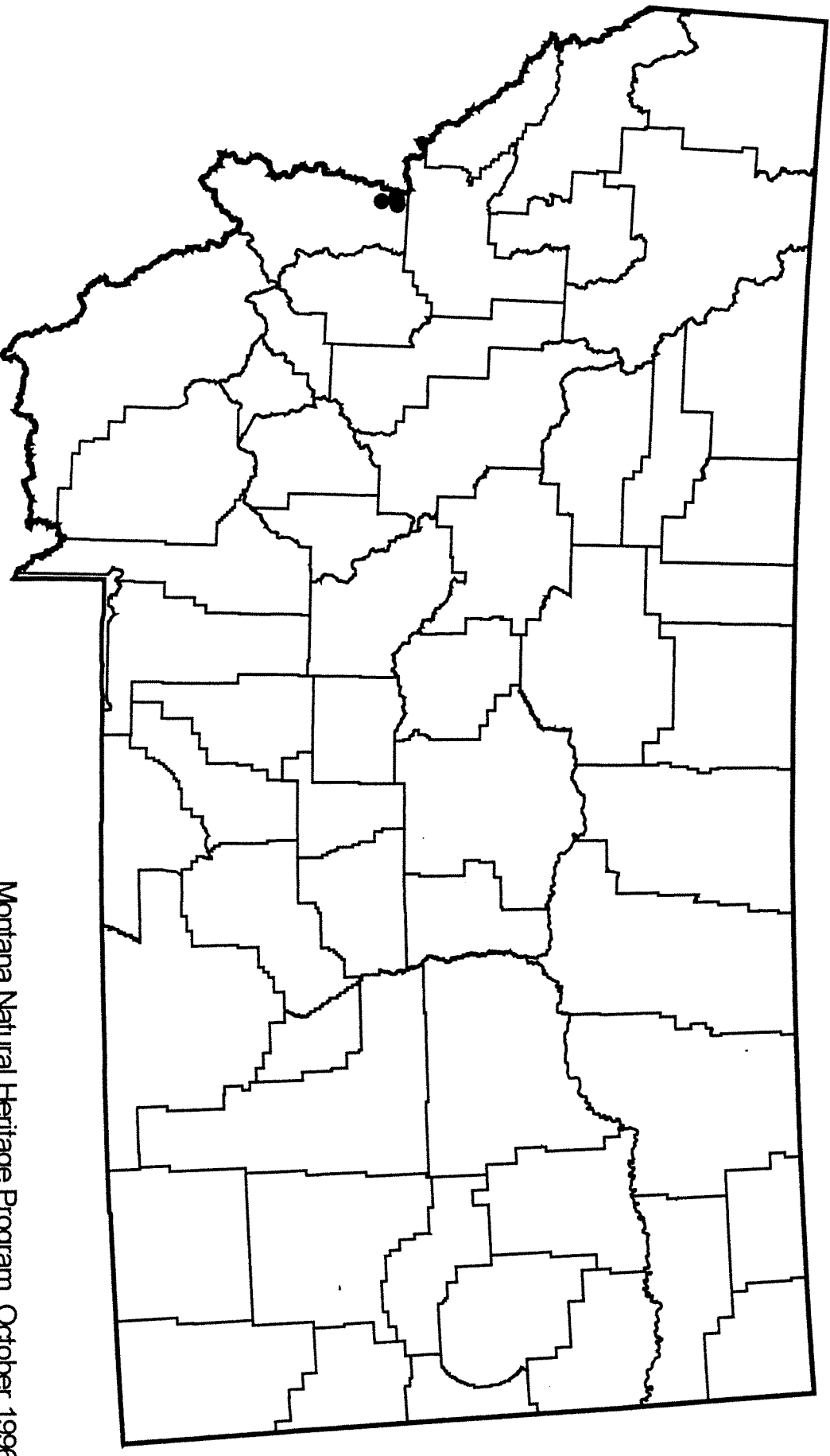
BITTERROOT NATIONAL FOREST, STEVENSVILLE RANGER DISTRICT
SELWAY-BITTERROOT WILDERNESS

---REFERENCES---

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Montana Distribution
of

Lesquerella humilis (Bitterroot Bladderpod)



Montana Natural Heritage Program, October 1996

Lesquerella paysonii Rollins
(Payson Bladderpod)

Family: BRASSICACEAE

Global rank: G3 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
BLM status:

Description: Payson's bladderpod is a perennial herb covered with star-shaped silver hairs with prostrate to ascending stems, 5-15 cm long. Basal leaves numerous, entire, spoon shape abruptly narrows to slender petioles, up to 3.5 cm long; stem leaves few and reduced. Flowers have 4 yellow petals, 8-10 mm long, in an expanding inflorescence. Fruits oblong-elliptic, compressed with rounded margins and sutures, 5-8 mm long.

Easily confused with L. CARINATA which has obviously keeled sutures and margins on fruits.

Global range:

State range: Sapphire Mtns. and Pioneer Mtns.

Montana counties: Beaverhead, Granite

Habitat: Gravelly, calcareous slopes and ridgetops in the montane zone. Elev. 5600-7550 ft.

Land Ownership Summary:

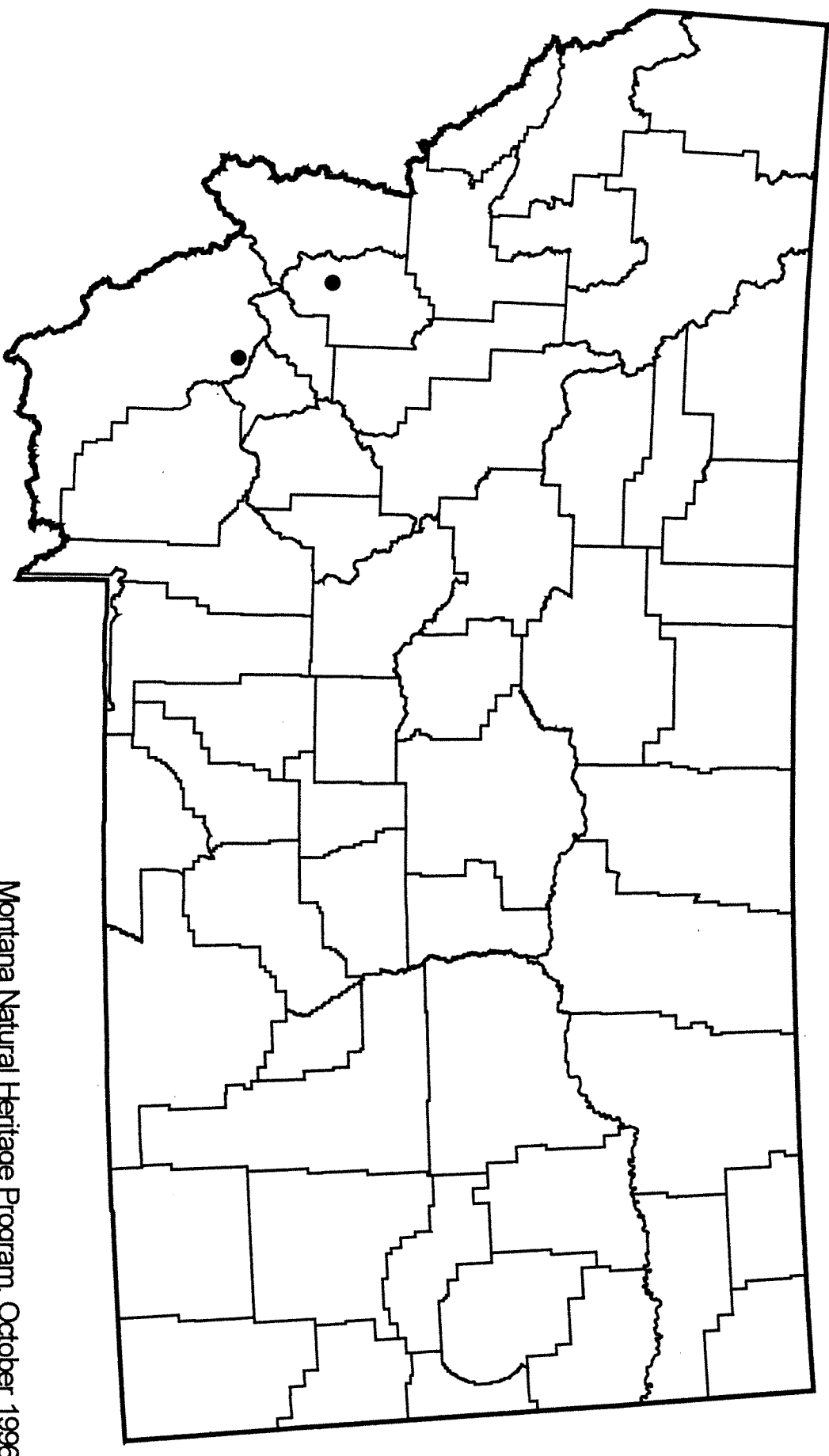
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, PHILIPSBURG RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, WISE RIVER RANGER DISTRICT

---REFERENCES---

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- Rollins, R. C. and E. A. Shaw. 1973. The genus LESQUERELLA (Cruciferae) in North America. Harvard Univ. Press. Cambridge, MA. 288 pp.
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Montana Distribution
of

Lesquerella paysonii (Payson Bladderpod)



Montana Natural Heritage Program, October 1996

Lesquerella pulchella Rollins, sp. nov.
(Beautiful Bladderpod)

Family: BRASSICACEAE

Global rank: G2 USFS Region 1 status: SENSITIVE
State rank: S2 USFWS status:
 BLM status: SENSITIVE

Description: Beautiful bladderpod is an herbaceous perennial with unbranched, prostrate to ascending stems arising from a branched rootcrown and taproot. The basal leaves have short petioles and elliptic, entire-margined blades. The alternate stem leaves are smaller and lack petioles. Foliage is covered with branched hairs. Yellow, stalked flowers are borne at the top of the stems in a narrow inflorescence that elongates as the fruit matures. Each flower has 4 separate petals, 4 separate sepals, and 4 long and 2 short stamens. The flattened, broadly elliptic capsules (silicle) have a keel on each face. Flowering and fruiting from late June to mid August. Second flowering noted in August.

The flattened, unlobed, keeled silicles separate this plant from species of *PHYSARIA* and *LESQUERELLA* in our area except *L. CARINATA* which has narrowly elliptic fruits.

Global range: Southwestern MT. State endemic.

State range: Centennial Mtns. and Pioneer Mtns.

Montana counties: Beaverhead

Habitat: Sparsely vegetated, often limestone-derived soil of fellfields and Douglas-fir, limber pine and mountain mahogany woodlands on ridges and slopes in the montane and alpine zones. Elev. 6200-9600 ft.

Land Ownership Summary:

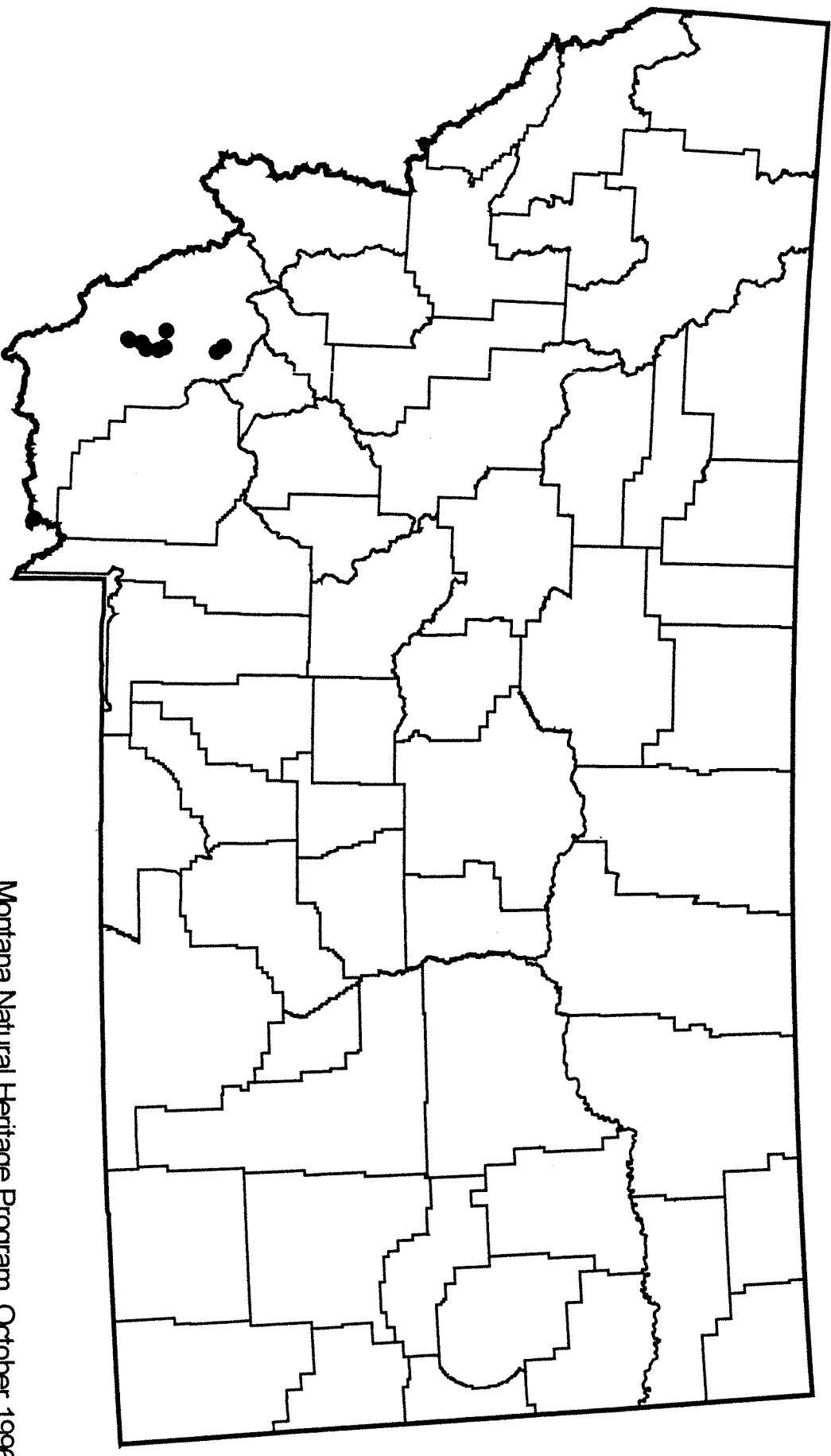
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, DILLON RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, MADISON RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, WISE RIVER RANGER DISTRICT
BLM: BUTTE DISTRICT, DILLON RESOURCE AREA
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

---REFERENCES---

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Montana Distribution
of

Lesquerella pulchella (Beautiful Bladderpod)



Montana Natural Heritage Program, October 1996

Liparis loeselii (L.) L.C. Rich.
(Loesel's Twayblade)

Family: ORCHIDACEAE

Global rank: G5 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status:

Description: Loesel's twayblade is a glabrous, herbaceous perennial with naked stems up to 15 cm (6 in) high from a bulb-like base. The two nearly erect, narrowly elliptic basal leaves, 5-15 cm (2-6 in) long, have a broad petiole and a thickened midrib. Several flowers are borne on short stalks at the top of the stem. Each white to greenish flower has 3 narrowly lance-shaped sepals, 5-7 mm long, 2 nearly linear petals, and a strap-shaped lip petal, 4-5 mm long, that is narrowed at the base. Petals and sepals are united together at the top of the curved, club-shaped ovary. The fruit is a narrowly elliptic capsule with numerous dust-like seeds. Flowering from June to mid July.

LIPARIS LOESELII might be confused with species of HABENARIA, but flowers of the latter have a tubular spur and lack a short stalk. In addition, HABENARIA species that occur in our fens have leafy stems. Species of LISTERA usually do not occur in fens and their two leaves are attached to the stem rather than being basal.

Global range: Once collected in Klickitat Co., WA but otherwise only known from Saskatchewan to Nova Scotia, Nebraska to Alabama, and Eurasia.
Disjunct.

State range: Swan Valley.

Montana counties: Lake

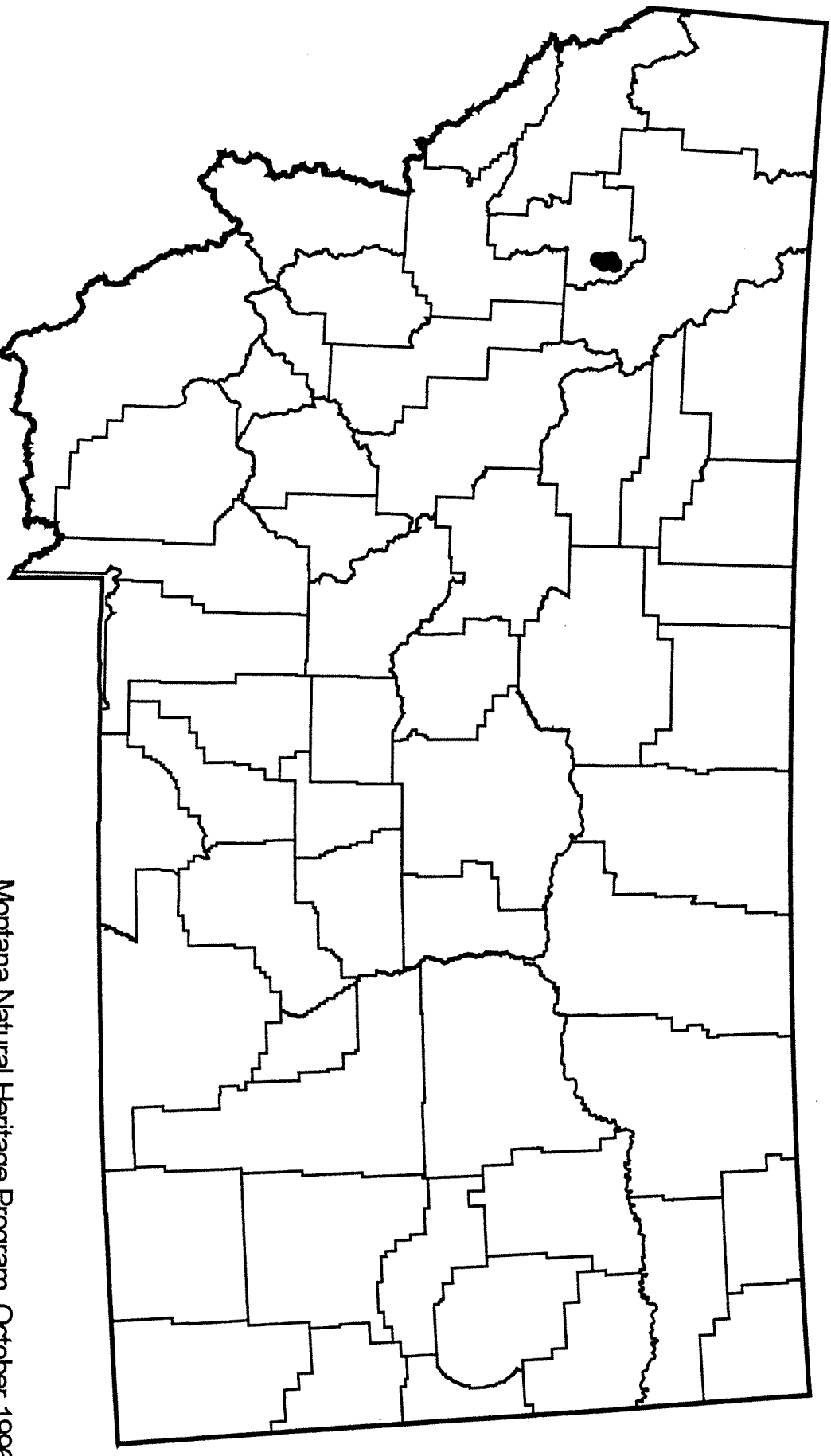
Habitat: Wet organic soils of (often calcareous) fens in the valleys and montane zone.
Elev. 3100-3300 ft.

Land Ownership Summary:
CORPORATE TIMBERLANDS
FLATHEAD NATIONAL FOREST, SWAN LAKE RANGER DISTRICT
SWAN RIVER PROPOSED RESEARCH NATURAL AREA
SWAN RIVER STATE FOREST

---REFERENCES---

Montana Distribution
of

Liparis loeselii (Loesel's Twayblade)



Montana Natural Heritage Program, October 1996

Lomatium geyeri (S. Wats.) Coult. & Rose
(Geyer's Biscuitroot)

Family: APIACEAE

Global rank: G3G4 USFS Region 1 status: SENSITIVE
State rank: S2 USFWS status:
 BLM status:

Description: Geyer's biscuitroot is a glabrous, herbaceous perennial with 1-3 stems 15-40 cm tall from a tuberous-thickened taproot up to 4 cm in diameter. Leaves are 2-3 times pinnately divided into narrow ultimate segments, and are borne on the lower half of the stem or sometimes only at the base. The smallest flower clusters consist of a number of stalked flowers attached at a single point (simple umbels); these clusters are, in turn, stalked and attached at a single point to form compound umbels; the small leaf-like bracts of the simple umbels are 2-3 mm long; the small white flowers have 5 separate petals attached on top of the ovary. The glabrous fruits are compressed, elliptic in outline and 7-12 mm long. Flowering end of March to early June, fruiting from end of May to early June.

The Parsley family contains many species which superficially resemble each other. A technical key must be consulted to distinguish among them.

Global range: Eastern WA, s. B.C., n. ID, and nw. MT. Regional endemic.

State range: Yaak River drainage.

Montana counties: Lincoln

Habitat: Vernal moist soil in open or partially shaded habitats in the montane zone.
Elev. 2200-4200 ft.

Land Ownership Summary:

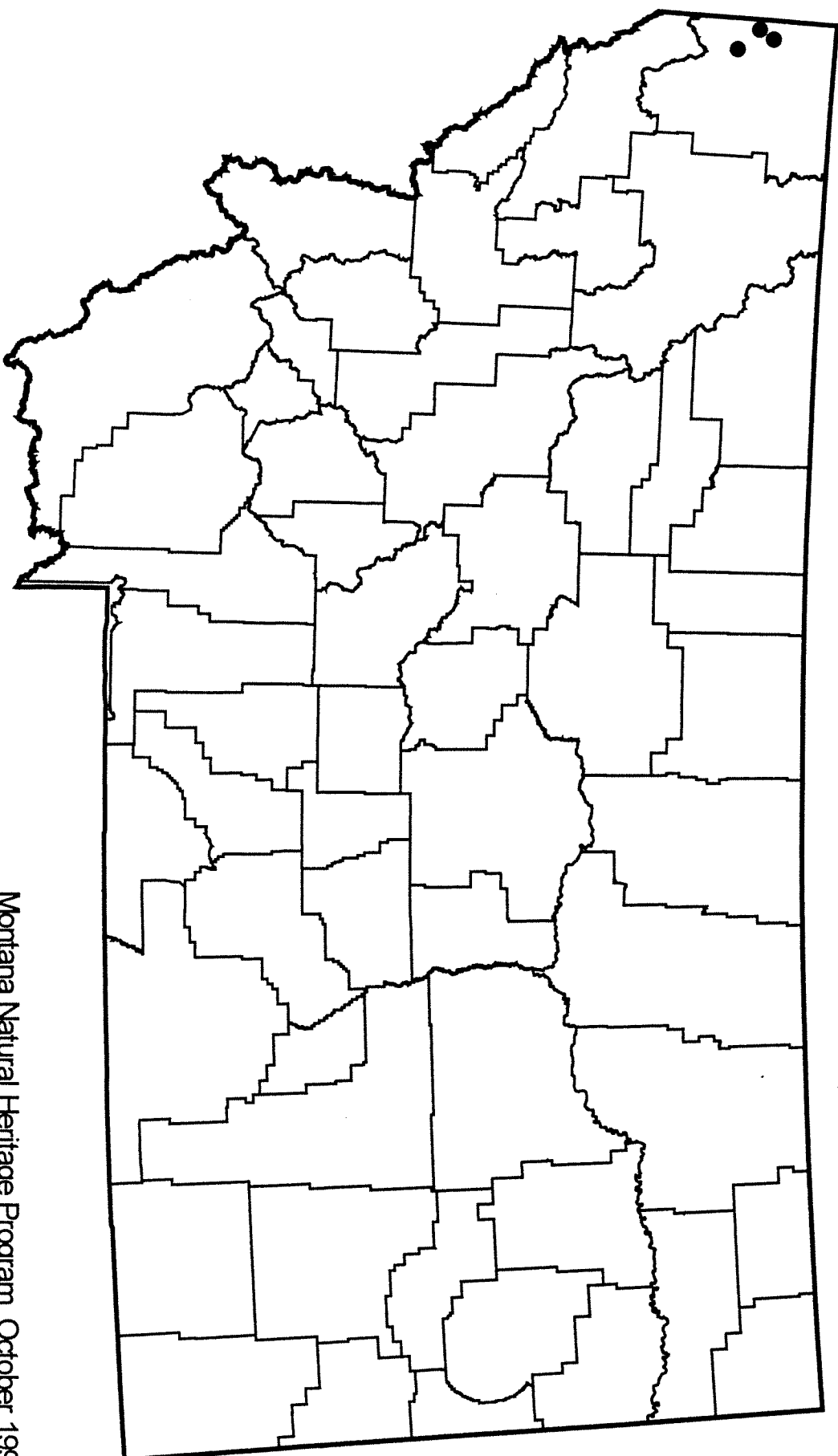
BITTERROOT POINT BOTANICAL AREA
CORPORATE TIMBERLANDS
KOOTENAI NATIONAL FOREST, LIBBY RANGER DISTRICT
KOOTENAI NATIONAL FOREST, THREE RIVERS RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

---REFERENCES---

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Montana Distribution
of

Lomatium geyeri (Geyer's Biscuitroot)



Montana Natural Heritage Program, October 1996

Lycopodium inundatum (L.) Holub
(Northern Bog Clubmoss)

Family: LYCOPODIACEAE

Global rank: G5 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status:

Description: Northern bog clubmoss resembles a large moss. It has prostrate or arching, stems that root at irregular intervals and give rise to erect branches, up to 10 cm (4 in) high. Narrow, pointed leaves, 4-8 mm long, clothe the stems and branches in 8-10 ranks. Spores, each subtended by a bract (sporophyll), similar to the leaves, are borne in dense spikes at the top of erect branches. It is difficult to distinguish the fertile and sterile portions of the branches. Producing spores June and July.

LYCOPODIUM ANNOTINUM is similar, but the sporophylls are half the length of the vegetative leaves. LYCOPOIDIUM CLAVATUM has well differentiated cones of sporophylls, and L. SELAGO has bands of sporophylls that alternate with vegetative leaves. LYCOPODIUM INNUNDATUM is the only species occurring in standing water of peatlands.

Global range:

State range: Swan River drainage.

Montana counties: Flathead, Missoula

Habitat: Wet organic soil of nutrient poor fens in the valleys and lower montane zone.
Elev. 4100- ft.

Land Ownership Summary:

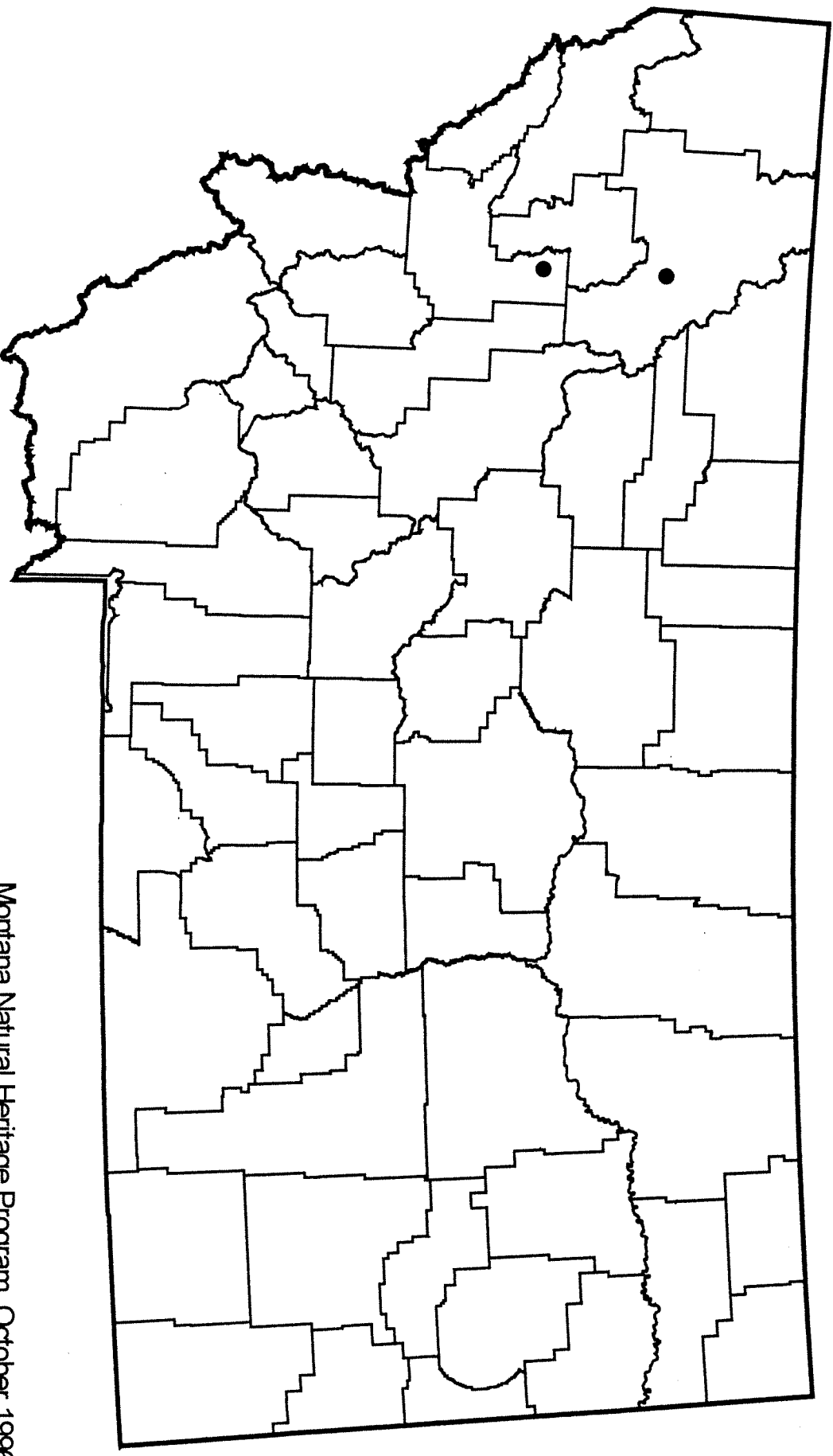
FLATHEAD NATIONAL FOREST, HUNGRY HORSE RANGER DISTRICT
FLATHEAD NATIONAL FOREST, SWAN LAKE RANGER DISTRICT

---REFERENCES---

- Caicco, S. L. 1987. Field investigations of selected sensitive plant species on the Idaho Panhandle National Forest. Idaho Natural Heritage Program, Idaho Department of Fish and Game, Boise, Idaho. 44 pp.
- Moseley, R. K. 1991. Floristic inventory of wetlands in Fremont and Teton Counties, Idaho. Unpublished report. Idaho Department of Fish and Game, Boise, Idaho. 60 pp. plus appendices.

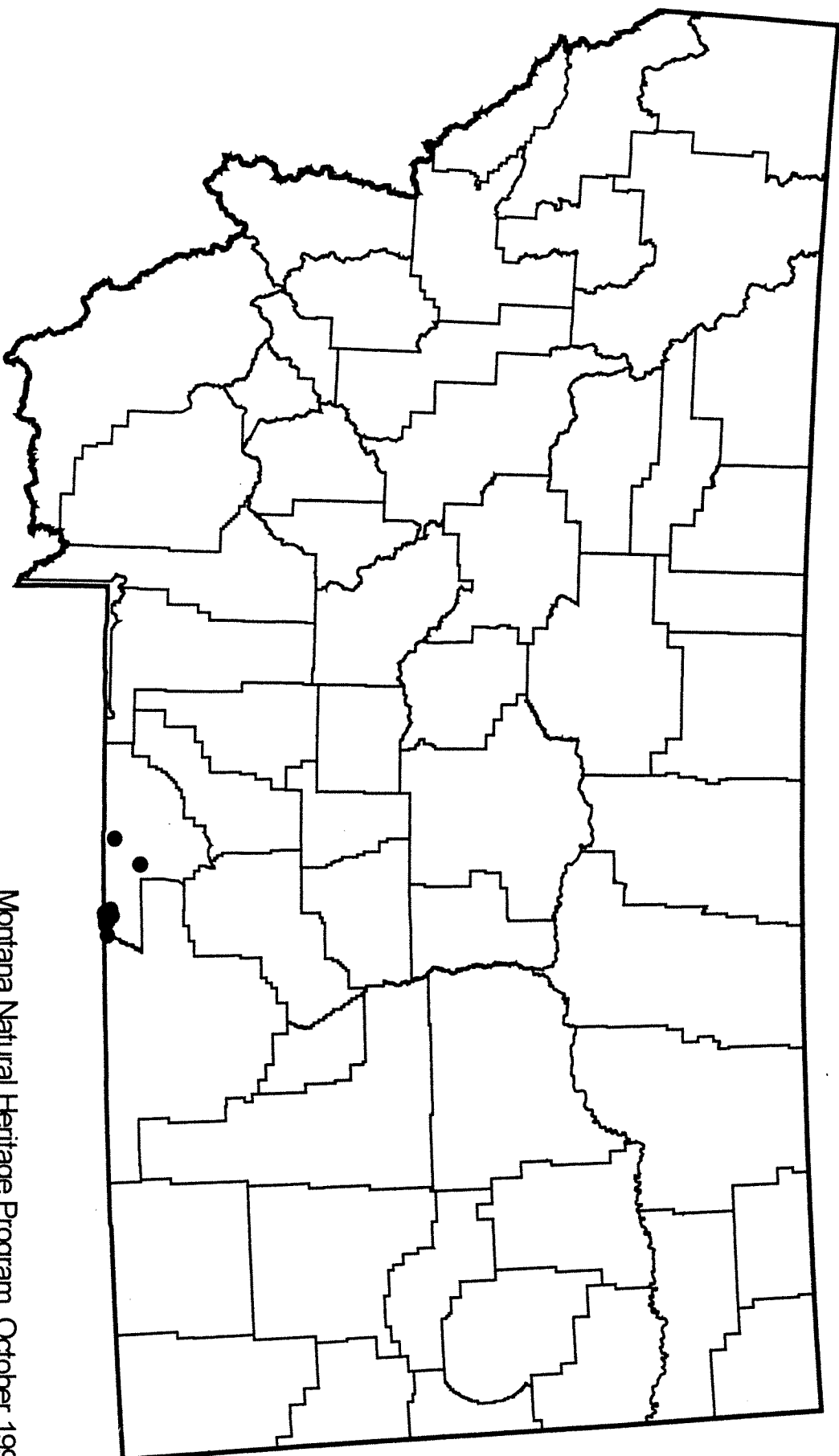
Montana Distribution
of

Lycopodium inundatum (Northern Bog Clubmoss)



Montana Distribution
of

Mentzelia pumila (Dwarf Mentzelia)



Montana Natural Heritage Program, October 1996

Mertensia bella Piper
(Oregon Bluebells)

Family: BORAGINACEAE

Global rank:	G4	USFS Region 1 status:	SENSITIVE
State rank:	S1	USFWS status:	
		BLM status:	

Description: Oregon bluebells is a perennial herb with solitary stems 10-40 cm tall from a bulb-like root. The ovate leaves are thin, entire-margined, evidently veiny, and 38 cm long; the lowermost are reduced to membranous sheaths; the others have progressively reduced petioles upwards on the stem; the herbage is mostly glabrous. The blue flowers are stalked, and born in open inflorescences at the top of the stem and in the axils of the upper leaves; the lower two thirds of the 5 petals are united into a bell-shaped corolla 6-10 mm long; the calyx is 2-3 mm long and sparsely hairy. Flowering in late May and June.

The bell-shaped flowers, which lack a distinct lower tubular portion and flaring upper portion, distinguish this species from all other bluebells.

Global range: Southwest OR, central ID and adjacent MT. Disjunct.

State range: Bitterroot Range.

Montana counties: Missoula

Habitat: Wet, seepy, open or partially shaded slopes in the montane zone. Elev. 6100-6600 ft.

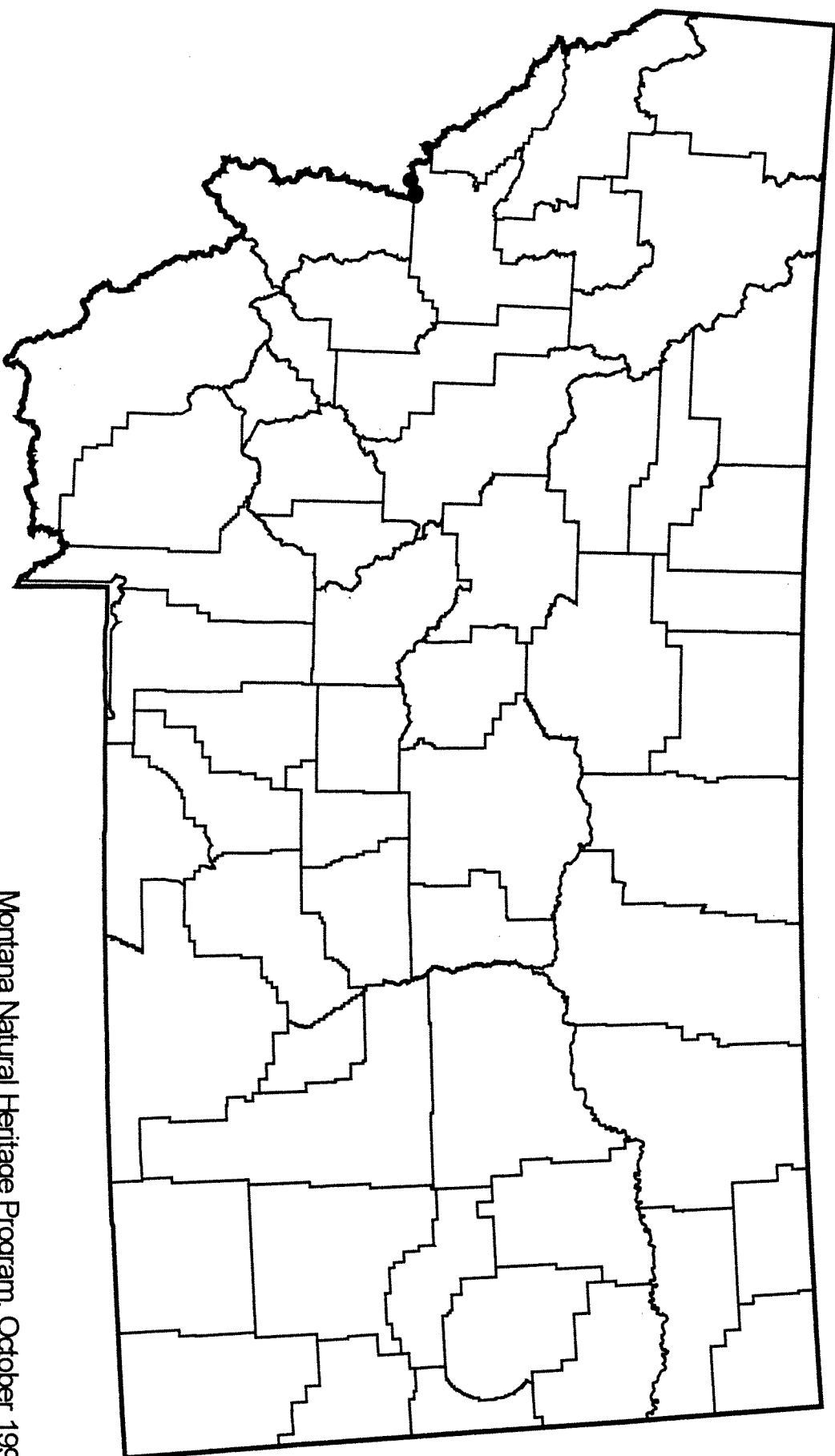
Land Ownership Summary:
LOLO NATIONAL FOREST, MISSOULA RANGER DISTRICT

---REFERENCES---

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Montana Distribution
of

Mertensia bella (Oregon Bluebells)



Montana Natural Heritage Program, October 1996

Mimulus primuloides Benth.
(Primrose Monkeyflower)

Family: SCROPHULARIACEAE

Global rank: G4 USFS Region 1 status: SENSITIVE
State rank: S2 USFWS status:
 BLM status:

Description: Primrose monkeyflower is a small perennial herb forms mats of small rosette-like plants from a network of thin shallow-rooted rhizomes; the stems are up to 6 cm tall. The lance-shaped leaves are mostly entire-margined, without petioles, 7-25 mm long; the foliage is covered with both stiff and soft hairs (sometimes glabrous), and is also often sticky. The flowers are solitary on the end of stalks longer than the leafy stems; the yellow corollas, 1-2 cm long, are two-lipped, and formed of petals united most of their length into a tube with flaring, notched lobes; the narrow calyx is 4-8 mm long and also formed of united segments. Flowering July through early September.

The combination of yellow flowers and leaves clustered near the base separate this species from other perennial monkeyflowers in our area.

Global range: WA to CA, e. to sw. MT and AZ. Peripheral.

State range: Bitterroot Mtns., Pioneer Mtns., Beaverhead Mtns.

Montana counties: Beaverhead, Ravalli

Habitat: Fens, sphagnum bogs and wet meadows in the montane and subalpine zones. Elev.
7060-8400 ft.

Land Ownership Summary:

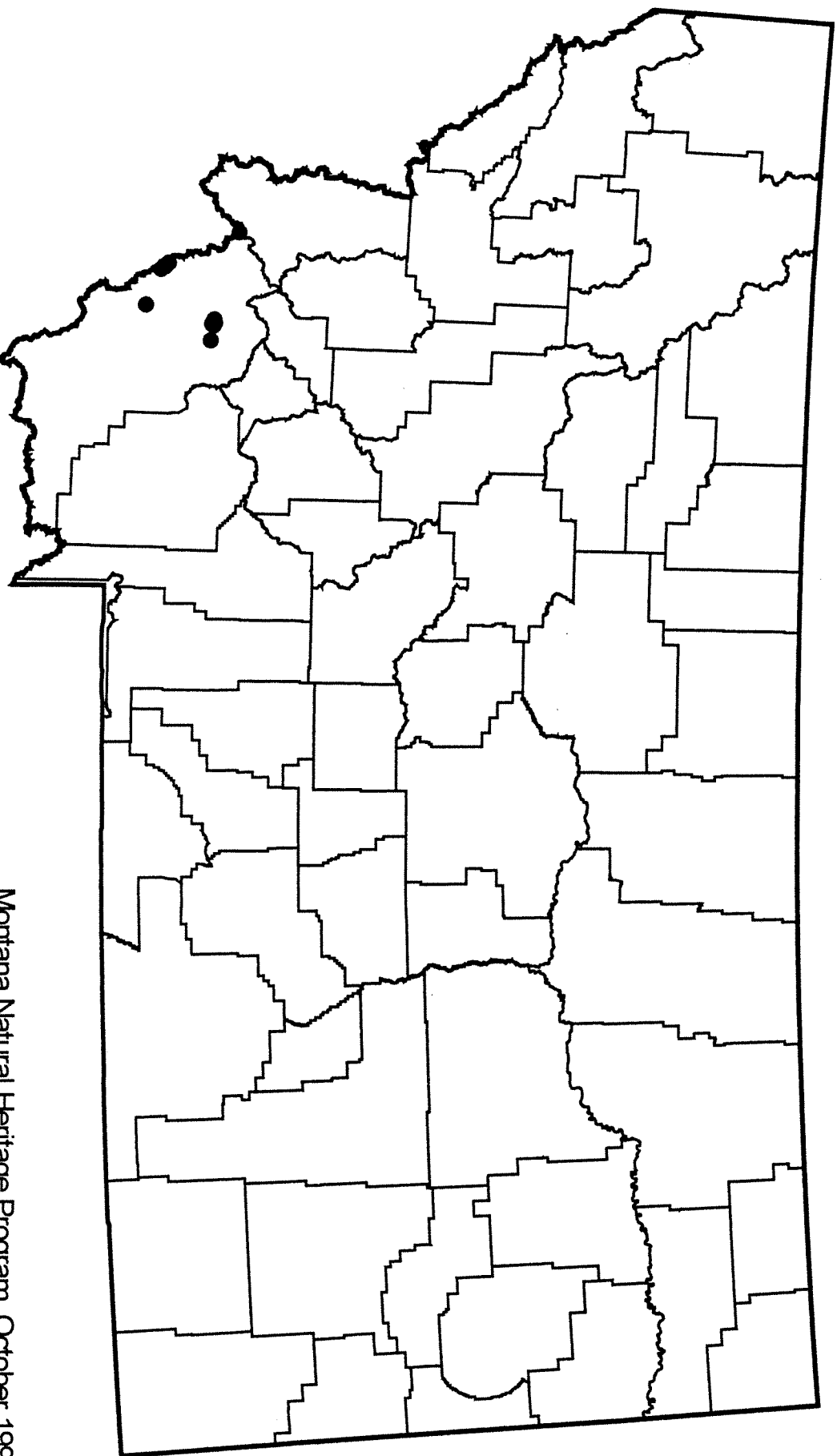
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, DILLON RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, WISDOM RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, WISE RIVER RANGER DISTRICT
BITTERROOT NATIONAL FOREST, SULA RANGER DISTRICT

---REFERENCES---

- Douglas, D. A. 1981. The balance between vegetative and sexual reproduction of MIMULUS PRIMULOIDES (Scrophulariaceae) at different altitudes in California. Journal of Ecology 69:295-310.
- Schassberger, L. A. 1991. Rare plant inventory of the East Pioneer Mountains, Beaverhead National Forest. Unpublished report. Montana Natural Heritage Program Helena, MT. 55 pp.

Montana Distribution
of

Mimulus primuloides (Primrose Monkeyflower)



Montana Natural Heritage Program, October 1996

Ophioglossum pusillum Raf.
(Adder's Tongue)

Family: OPHIOGLOSSACEAE

Global rank: G5 USFS Region 1 status: SENSITIVE
State rank: S2 USFWS status:
 BLM status:

Description: Adder's-tongue is an herbaceous perennial up to 20 cm (8 in) high. Each plant has an erect, leafless stem, 2-15 cm (1-6 in) high, that branches into a single leaf-like, ascending, sterile blade and an erect, spike-like fertile stalk. The sterile blade is elliptic to broadly lance-shaped and 2-8 cm (1-3 in) long with entire margins and a rounded to pointed tip. The upper portion of the fertile stalk has 2 rows of contiguous spore-bearing sacs on one side.

There is no other fern with a single entire-margined blade.

Global range:

State range: Flathead and Swan River drainages; also Cabinet Mtns.

Montana counties: Flathead, Lake, Lincoln, Missoula

Habitat: Wet meadows, margins of fens, and gravelly moist soil in the valleys and montane zone. Elev. 2920-4450 ft.

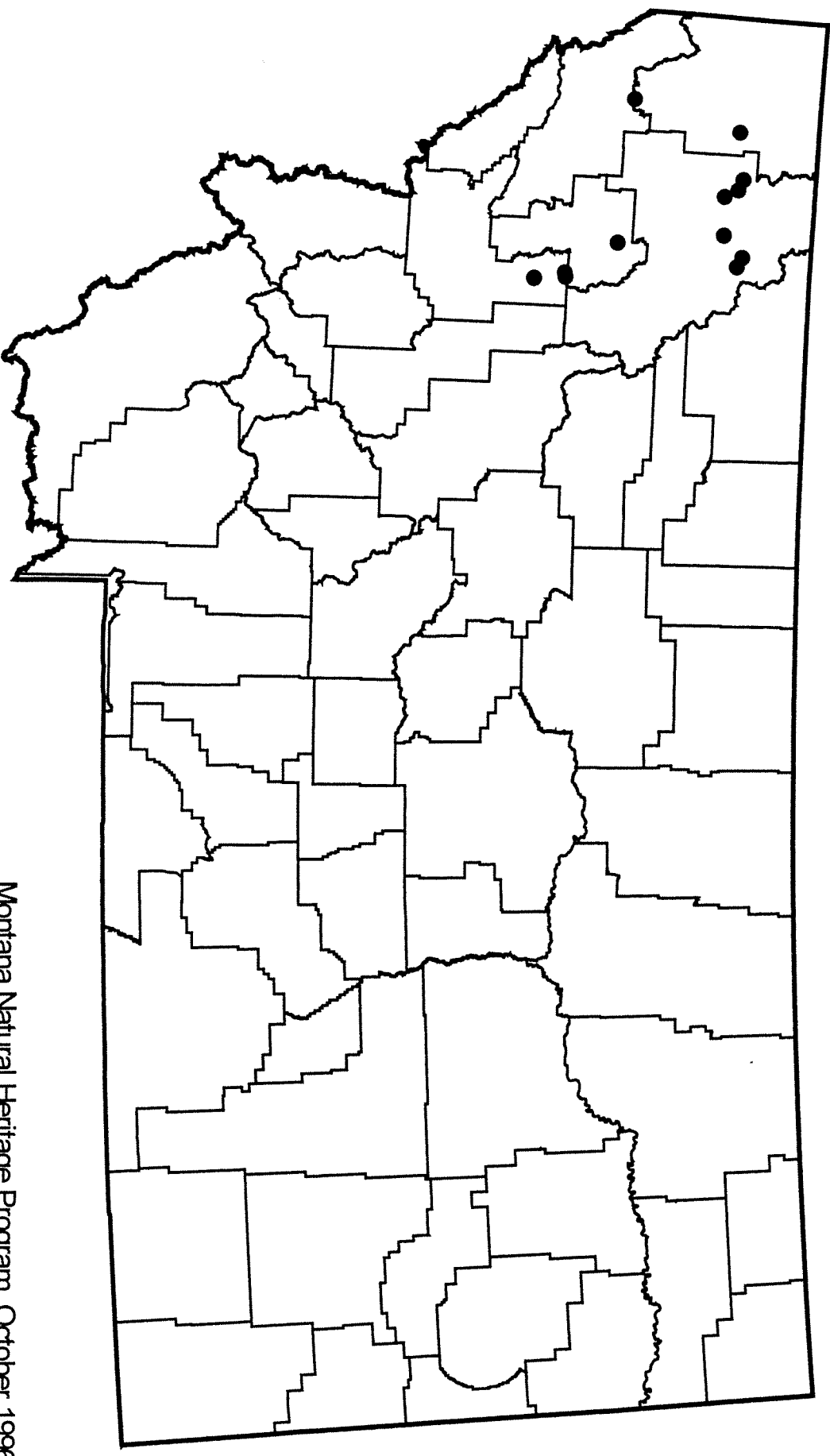
Land Ownership Summary:

CORPORATE TIMBERLANDS
FLATHEAD INDIAN RESERVATION
FLATHEAD NATIONAL FOREST, GLACIER VIEW RANGER DISTRICT
FLATHEAD NATIONAL FOREST, SWAN LAKE RANGER DISTRICT
GLACIER NATIONAL PARK
KOOTENAI NATIONAL FOREST, FISHER RIVER RANGER DISTRICT
KOOTENAI NATIONAL FOREST, FORTINE RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
STILLWATER STATE FOREST
YELLOW BAY BIOLOGICAL STATION
YELLOW BAY STATE RECREATION SITE

---REFERENCES---

Montana Distribution
of

Ophioglossum pusillum (Adder's Tongue)



Montana Natural Heritage Program, October 1996

Orogenia fusiformis S. Wats.
(Tapered-root Orogenia)

Family: APIACEAE

Global rank: G5 USFS Region 1 status: SENSITIVE
State rank: S2 USFWS status:
 BLM status:

Description: Tapered-root orogenia is a glabrous perennial herb with usually a single leafless stem, 1-4 cm (ca. 1 in) high, from a long, thin taproot and a simple rootcrown beneath the soil surface. The 2-3 basal leaves have petioles and blades that are twice divided into strap-shaped leaflets, 10-45 mm long and 1-4 mm wide. Tiny white flowers are borne in a few hemispherical clusters arranged at the ends of stalks, 1-2 cm long, in an open inflorescence at the top of the stem. Flowers have 5 separate petals surmounting an ovary that matures into a glabrous, elliptical fruit, 3-4 mm long with obscure ridges on the outer face. Flowering and fruiting from end of April through May.

The small size, white flowers, and globose root distinguish this species from other members of the family in our area. The small size and early spring maturity make this plant difficult to detect.

Global range: Southwestern MT, OR and n. CA.

State range: Bitterroot Mtns. and Gravelly Range near Reynolds Pass.

Montana counties: Beaverhead, Madison, Missoula, Ravalli

Habitat: Open slopes, ridges, and meadows, from the lower foothills to moderate elevations in the mountains. Elev. 4240-7300 ft.

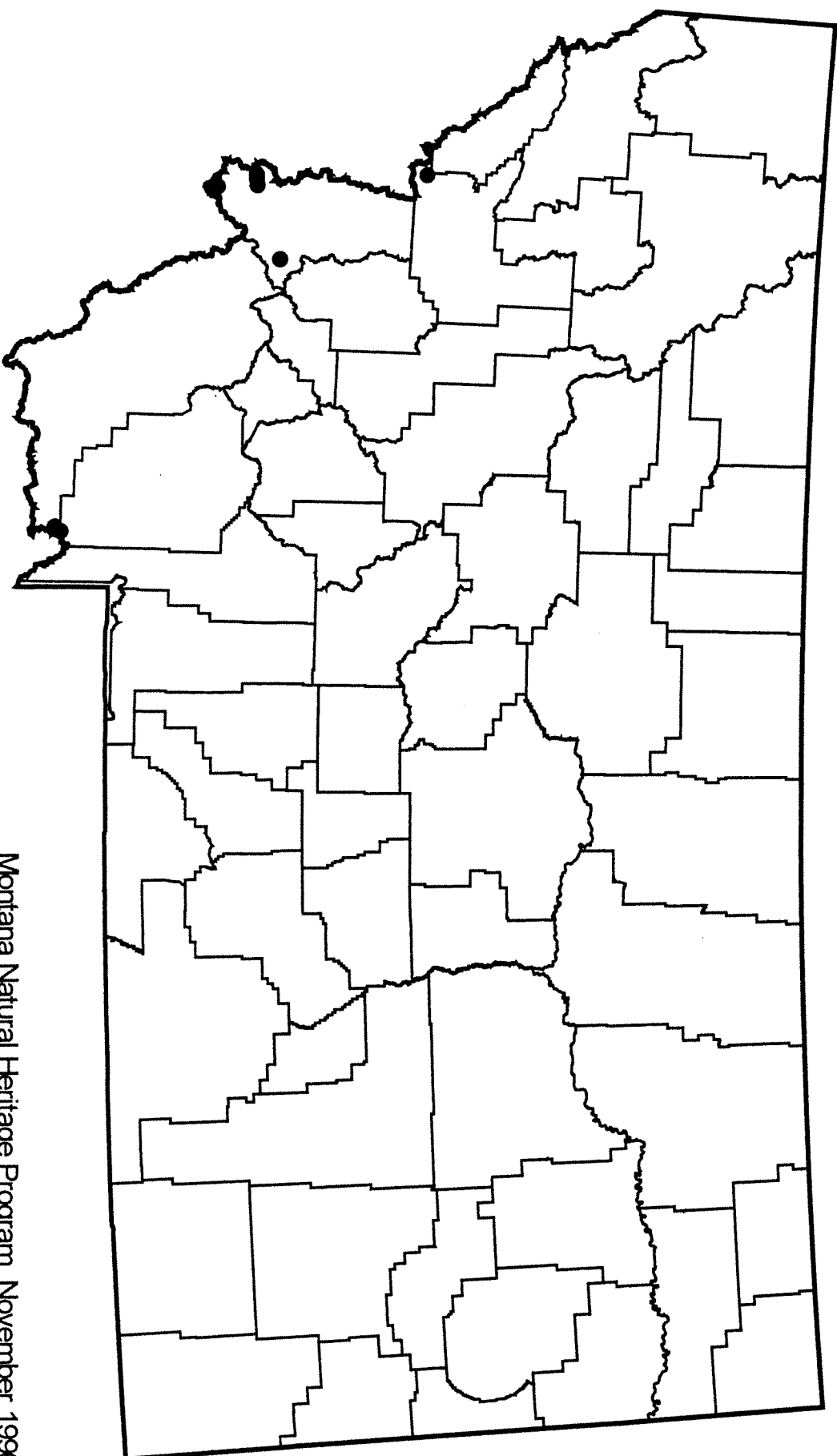
Land Ownership Summary:

BEAVERHEAD-DEERLODGE NATIONAL FORESTS, MADISON RANGER DISTRICT
BITTERROOT NATIONAL FOREST, SULA RANGER DISTRICT
BITTERROOT NATIONAL FOREST, WEST FORK RANGER DISTRICT
CORPORATE TIMBERLANDS
LOLO NATIONAL FOREST, MISSOULA RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

---REFERENCES---

Montana Distribution
of

Orogenia fusiformis (Tapered-root Orogenia)



Montana Natural Heritage Program, November 1996

Oxytropis podocarpa Gray
(Stalked-pod Crazyweed)

Family: FABACEAE

Global rank: G4 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status:

Description: Stalked-pod crazyweed usually forms small, dense cushions. This perennial species has naked stems that are erect or prostrate and up to 7 cm long. The basal leaves are 2-5 cm long and pinnately divided into 9-27 narrowly lance-shaped leaflets; the herbage is covered with stiff, silvery hairs. The 1-2 purple flowers resemble pea flowers and are held erect at the top of the stem; the corolla is 12-17 mm long; the tubular calyx is purplish and 2/3 the length of the corolla. The papery and inflated pod is 15-25 mm long and ovoid in outline. Flowering in June, fruiting late June through August.

This is our only purple-flowered OXYTROPIS with fewer than 4 flowers. Species of alpine ASTRAGALUS have leafy stems.

Global range: Alta. to Labr., south in Rocky Mtns. to CO. Sparse.

State range: Front Range and Lewis Range.

Montana counties: Glacier, Teton

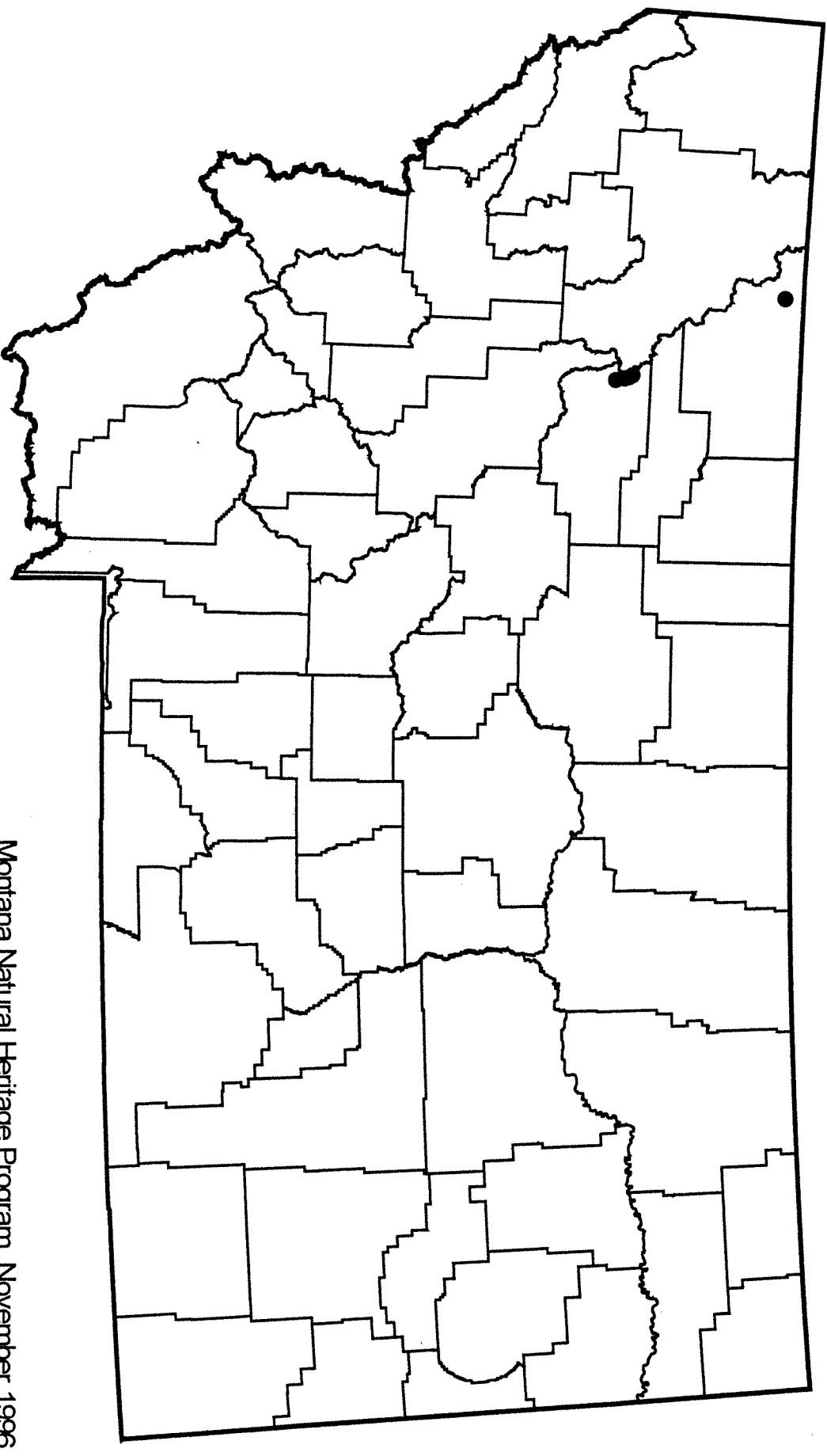
Habitat: Alpine ridges and slopes, often on limestone substrates. Elev. 7300-8200 ft.

Land Ownership Summary:
BOB MARSHALL WILDERNESS
GLACIER NATIONAL PARK
LEWIS & CLARK NATIONAL FOREST, ROCKY MOUNTAIN RANGER DISTRICT

---REFERENCES---

Montana Distribution
of

Oxytropis podocarpa (Stalked-pod Crazyweed)



Penstemon lemhiensis (Keck) Keck & Cronq.
(Lemhi Beardtongue)

Family: SCROPHULARIACEAE

Global rank: G3 USFS Region 1 status: SENSITIVE
State rank: S2 USFWS status:
 BLM status: SENSITIVE

Description: Lemhi beardtongue is a large perennial, with 1-several stems up to 70 cm tall from a branched rootstock and a short taproot. The leaves are narrowly lance-shaped and entire-margined; the basal ones have a petiole and are up to 16 cm long; the opposite stem leaves are without petioles and are reduced upwards; the herbage is lightly covered with small hairs and occasionally with a thin bluish wax. The inflorescence consists of clusters of several short-stalked flowers in the axils of the upper leaves; the tubular corolla is flared and two-lipped at the mouth, 25-35 mm long and bright blue; the lance-shaped calyx segments taper to a long tip, are 7-11 mm long, and have a narrow white margin. Flowering from early June to late July, depending on climatic conditions and elevation. Fruits mature and dehisce during August and early September.

There are 3 species of tall beardtongues with large, bright blue flowers in southwest Montana. P. LEMHIENSIS can be distinguished by its narrow, tapered calyx segments greater than 7 mm long, and glabrous sterile stamen (staminode).

Global range: Endemic to southwestern MT and adjacent Lemhi Co., ID.

State range: Beaverhead, Big Hole and Bitterroot river drainages.

Montana counties: Beaverhead, Deer Lodge, Ravalli, Silver Bow

Habitat: Open sagebrush/bunchgrass areas, often near the lower treeline, in the foothills, montane, and lower subalpine zones. On moderate to steep, east- to southwest-facing slopes, often in open soil areas. Elev. 4150-8100 ft.

Land Ownership Summary:

BEAVERHEAD-DEERLODGE NATIONAL FORESTS, BUTTE RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, DILLON RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, JEFFERSON RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, WISDOM RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, WISE RIVER RANGER DISTRICT
BIG HOLE NATIONAL BATTLEFIELD
BITTERROOT NATIONAL FOREST, DARBY RANGER DISTRICT
BITTERROOT NATIONAL FOREST, SULA RANGER DISTRICT
BITTERROOT NATIONAL FOREST, WEST FORK RANGER DISTRICT
BLM: BUTTE DISTRICT, DILLON RESOURCE AREA
BLM: BUTTE DISTRICT, HEADWATERS RESOURCE AREA
CRANE RANCH CONSERVATION EASEMENT
PAINTED ROCKS STATE RECREATION SITE
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
SHINING MOUNTAIN RANCH PROPERTY

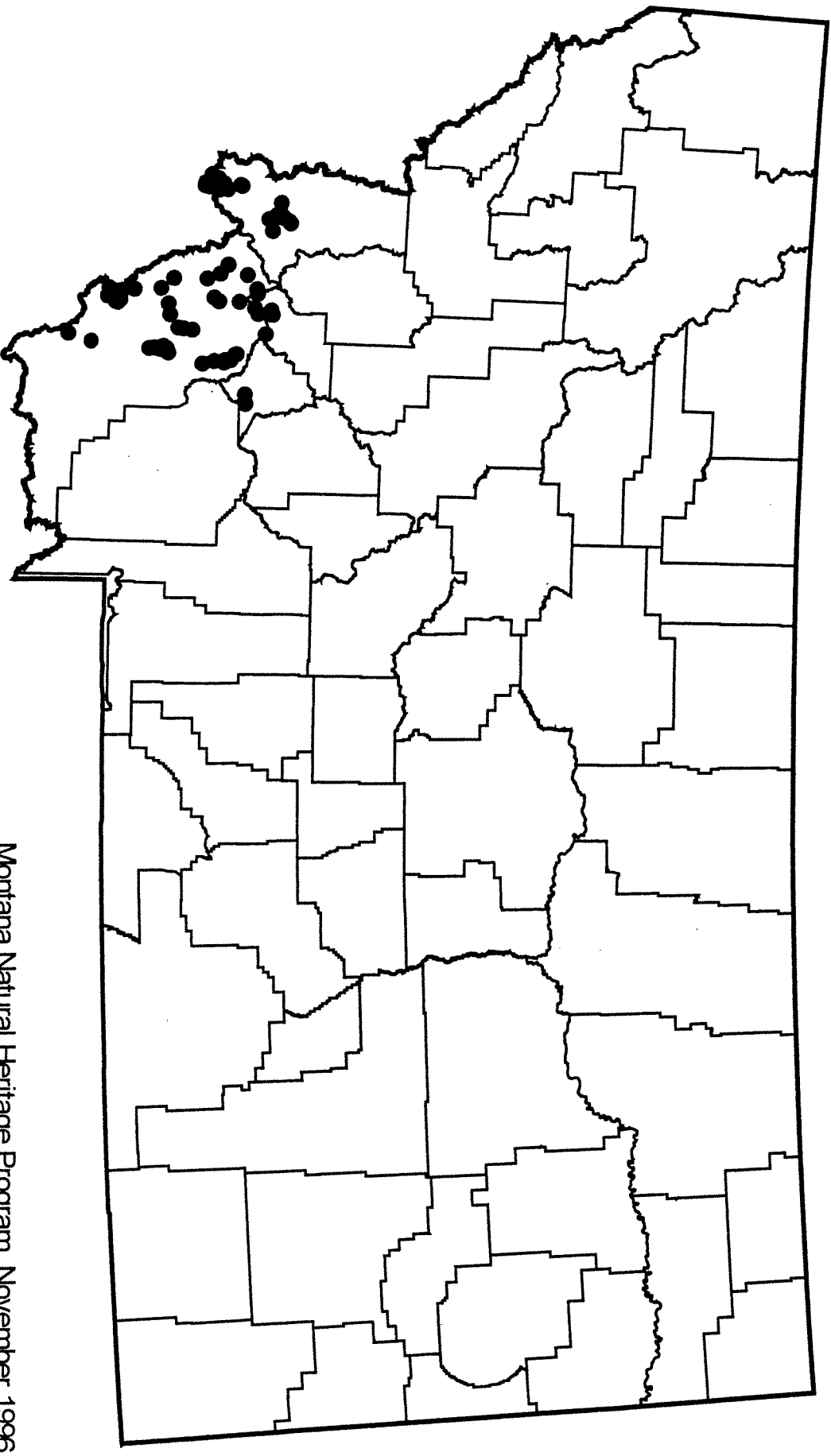
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- Shelly, J. S. and B. L. Heidel. 1995. Demographic monitoring of *PENSTEMON LEMHIENSIS* in southwest Montana - final report. Unpublished report to the Beaverhead National Forest and the Bureau of Land Management. Montana Natural Heritage Program. 26 pp. plus appendices.
- Shelly, J. S. and P. L. Achuff. 1992. Demographic monitoring of *PENSTEMON LEMHIENSIS*, Beaverhead National Forest, Montana. Unpublished report. Montana Natural Heritage Program, Helena, MT. 19 pp.
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Montana Distribution
of

Penstemon lemhiensis (Lemhi Beardtongue)



Montana Natural Heritage Program, November 1996

Petasites frigidus var *nivalis* (Greene) Cronq.
(Palmate-leaved Coltsfoot)

Family: ASTERACEAE

Global rank: G5T? USFS Region 1 status: PROPOSED SENSITIVE
State rank: S1 USFWS status:
 BLM status:

Description: Palmate-leaved coltsfoot is a rhizomatous, perennial herb with erect stems, 1-3 dm (4-12 in) high, clothed in alternate, overlapping, brownish parallel-veined bracts, 25-60 mm (1-2 in) long. Leaves arise from the ground separately and later than stems. Blades, up to 2 dm (8 in) wide, are spade-shaped with lobed margins and long petioles. Leaves are glabrous above but covered with long white hairs beneath. Many stalked flower heads are borne in a small umbrella-shaped inflorescence at the top of the stem. Each head, 5-9 mm high, has a single series of involucre bracts surrounding the white tubular flowers. Some heads have flowers with fertile ovaries and inconspicuous rays but without stamens. Other heads have flowers without rays but with fertile stamens and sterile ovaries. The seeds (achenes) are topped by numerous unbranched, white bristles (pappus).

The more common *P. SAGITTATUS* has leaves that are merely toothed on the margins.

Global range:

State range: Livingston Range.

Montana counties: Flathead

Habitat: Wet soil in meadows and open forest along streams and in seep areas in the valley and montane zones. (MNHP has no data) Elev. 3400-4000 ft.

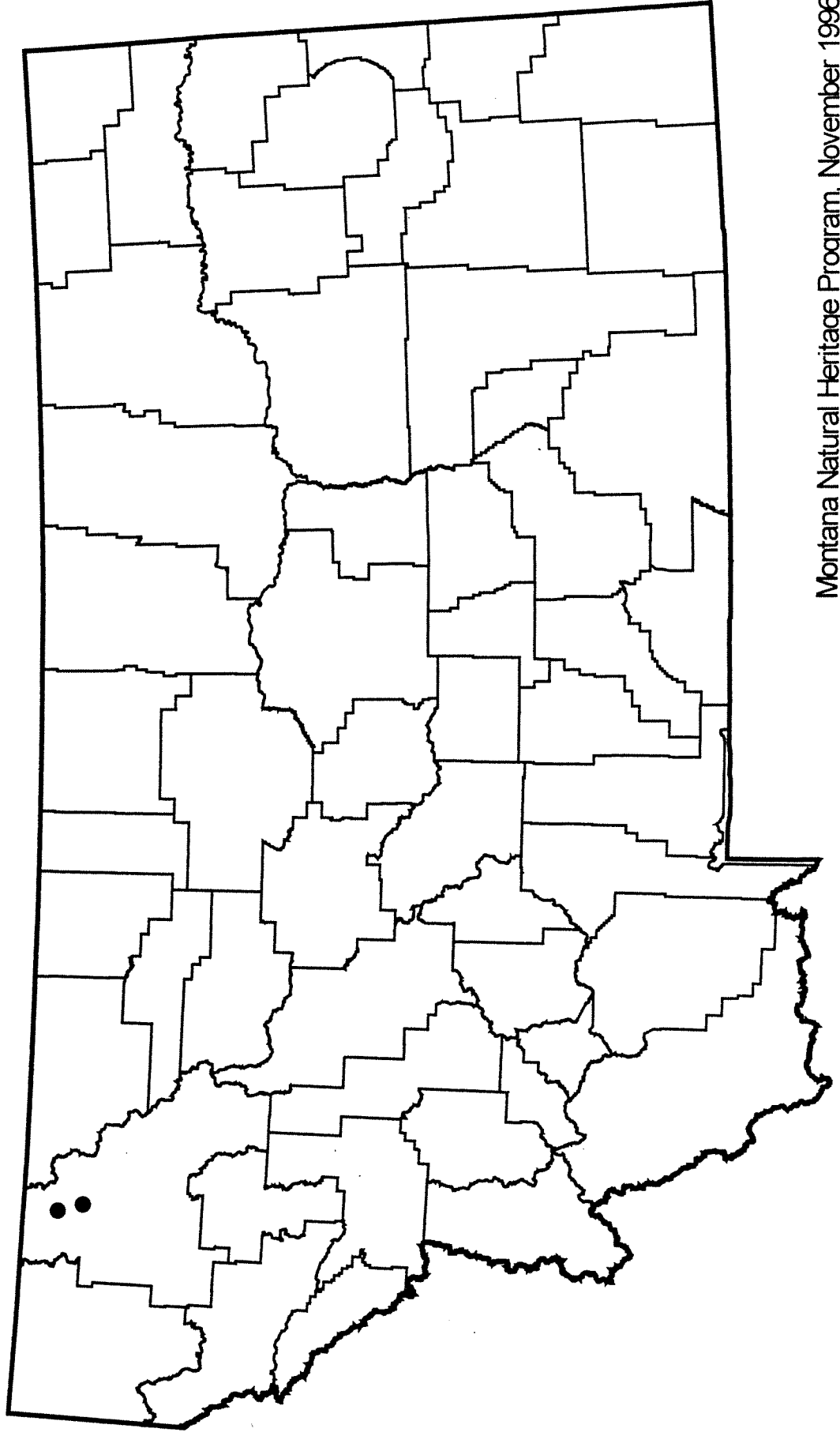
Land Ownership Summary:

FLATHEAD NATIONAL FOREST, GLACIER VIEW RANGER DISTRICT
FLATHEAD WILD & SCENIC RIVER
GLACIER NATIONAL PARK

---REFERENCES---

Montana Distribution
of

Petasites frigidus v. nivalis (Palmate-leaved Coltsfoot)



Montana Natural Heritage Program, November 1996

Phlox kelseyi var missoulensis Wherry
(Missoula Phlox)

Family: POLEMONIACEAE

Global rank: G5T2 USFS Region 1 status: SENSITIVE
State rank: S2 USFWS status:
 BLM status:

Description: Missoula phlox is a mat-forming perennial with numerous prostrate, branching stems up to 10 cm long from a branched rootcrown. The sharply-pointed, linear leaves, 10-25 mm long and 1-3 mm wide, are opposite each other on the stem and have thickened margins and long, spreading hairs at the base; the herbage is otherwise glabrous to short-hairy or glandular. The typical phlox flowers are solitary at the ends of the stems; the five-lobed calyx is densely hairy and sometimes glandular; the corolla is white or various shades of pink and blue and has a tube 10-13 mm long and five broad lobes 6-9 mm long at the mouth. The style is 4-8 mm long. Flowering in May and June.

PHLOX is a very difficult genus, and a technical key should be consulted for positive identification. Var. MISSOULENSIS and var. KELSEYI are very similar; however, the former occurs in dry, exposed habitats, while the latter is found in moist meadows. PHLOX MULTIFLORA is similar but lacks the long hairs on the leaves.

Global range: West and central MT. Regional endemic.

State range: Little Belt Mtns., Lewis Range, Anaconda Range, and Continental Divide near Helena. Also, Clark Fork drainage near Missoula.

Montana counties: Cascade, Granite, Judith Basin, Lewis and Clark, Meagher, Missoula, Powell

Habitat: Open, windswept slopes in the valleys and montane zone. Elev. 3600-8100 ft.

Land Ownership Summary:

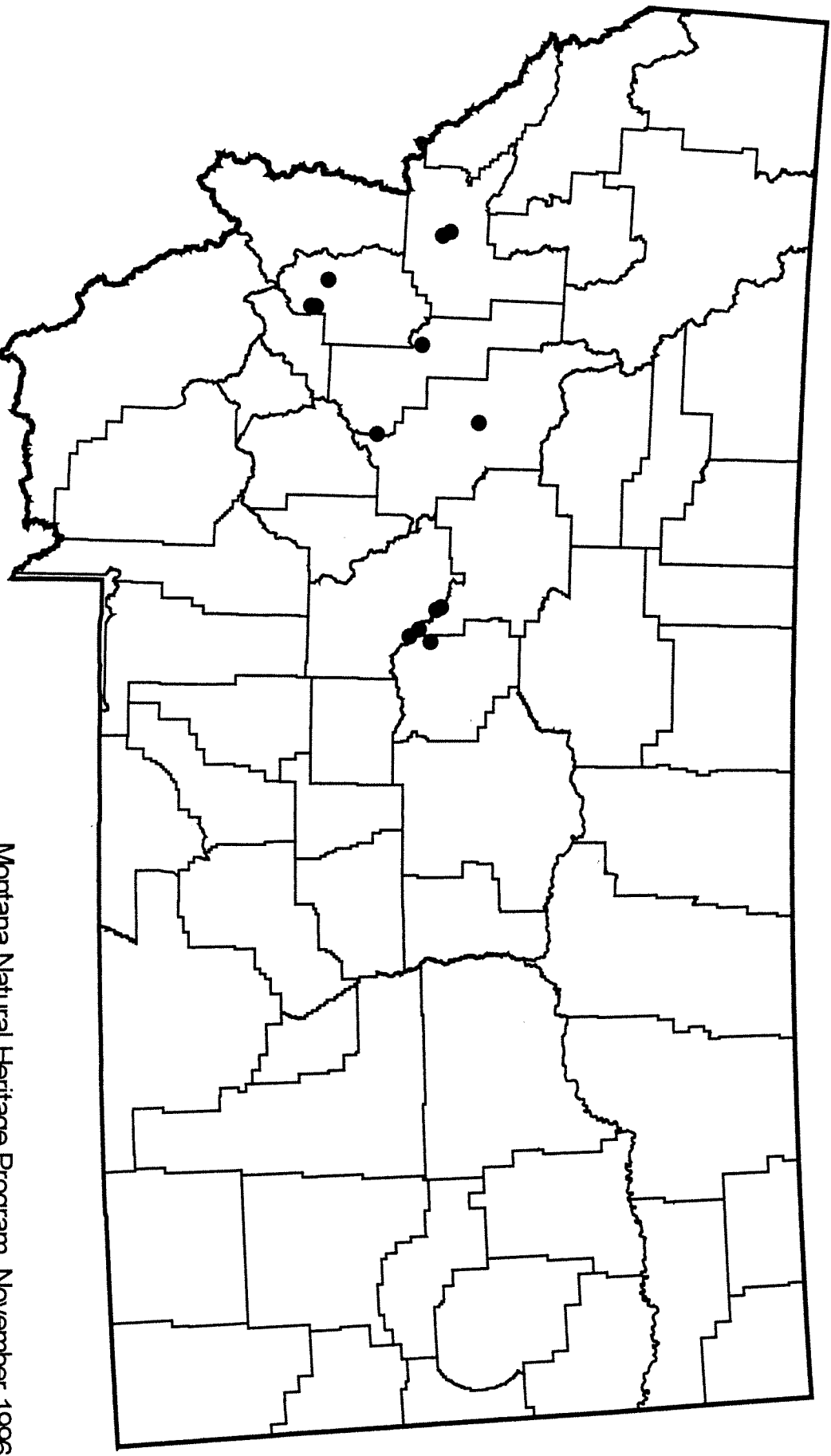
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, PHILIPSBURG RANGER DISTRICT
HELENA NATIONAL FOREST, HELENA RANGER DISTRICT
HELENA NATIONAL FOREST, LINCOLN RANGER DISTRICT
LEWIS & CLARK NATIONAL FOREST, JUDITH RANGER DISTRICT
LEWIS & CLARK NATIONAL FOREST, KINGS HILL RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
TENDERFOOT EXPERIMENTAL FOREST

---REFERENCES---

- Campbell, L. M. 1992. Biosystematics of PHLOX KELSEYI (Polemoniaceae). M.S. thesis. University of Montana. 78 pp.
- Schassberger, L. and P. Achuff. 1991. Status review of PHLOX KELSEYI var. MISSOULENSIS, Lewis and Clark National Forest. Montana Natural Heritage Program, Helena, MT. 37 pp.

Montana Distribution
of

Phlox kelseyi v. *missoulensis* (Missoula Phlox)



Montana Natural Heritage Program, November 1996

Polygonum douglasii ssp austinae (Greene) E. Murr.
(Austin's Knotweed)

Family: POLYGONACEAE

Global rank: G5T4 USFS Region 1 status: SENSITIVE
State rank: S2S3 USFWS status:
 BLM status:

Description: Austin's knotweed is a sparsely hairy annual with erect stems, 3-10 cm (1-4 in) high, that are branched near the base. The alternate, narrowly egg-shaped to elliptic leaves are 5-15 mm long and 1/2-1/3 as wide. Lower leaves have short petioles, while upper ones are sessile and smaller. There are small membranous sheaths (stipules) surrounding the stem at the point of leaf attachment. Groups of 1-4 tiny, nodding flowers occur in the axils of all but the lowest leaves. Each flower has 5-8 stamens and 5 petal-like tepals, 2-3 mm long, that are green with white or pink margins. The shiny black seeds (achenes) are 3-sided and mostly 2-2.5 mm long.

There are many similar-appearing annual species of POLYGONUM. Typical P. DOUGLASII has leaves that are less than 1/3 as wide as long and achenes that are ca. 3 mm long. Many other species of POLYGONUM have erect flowers. A technical key and hand lens may be required for positive determination.

Global range:

State range: Big Belt Mtns., Front Range and Madison Range, Tobacco Root Mtns.

Montana counties: Broadwater, Flathead, Lewis and Clark, Madison, Pondera, Teton

Habitat: Barren, gravelly, often shale-derived soil of slopes and eroding banks in the montane zone. Elev. 4320-8520 ft.

Land Ownership Summary:

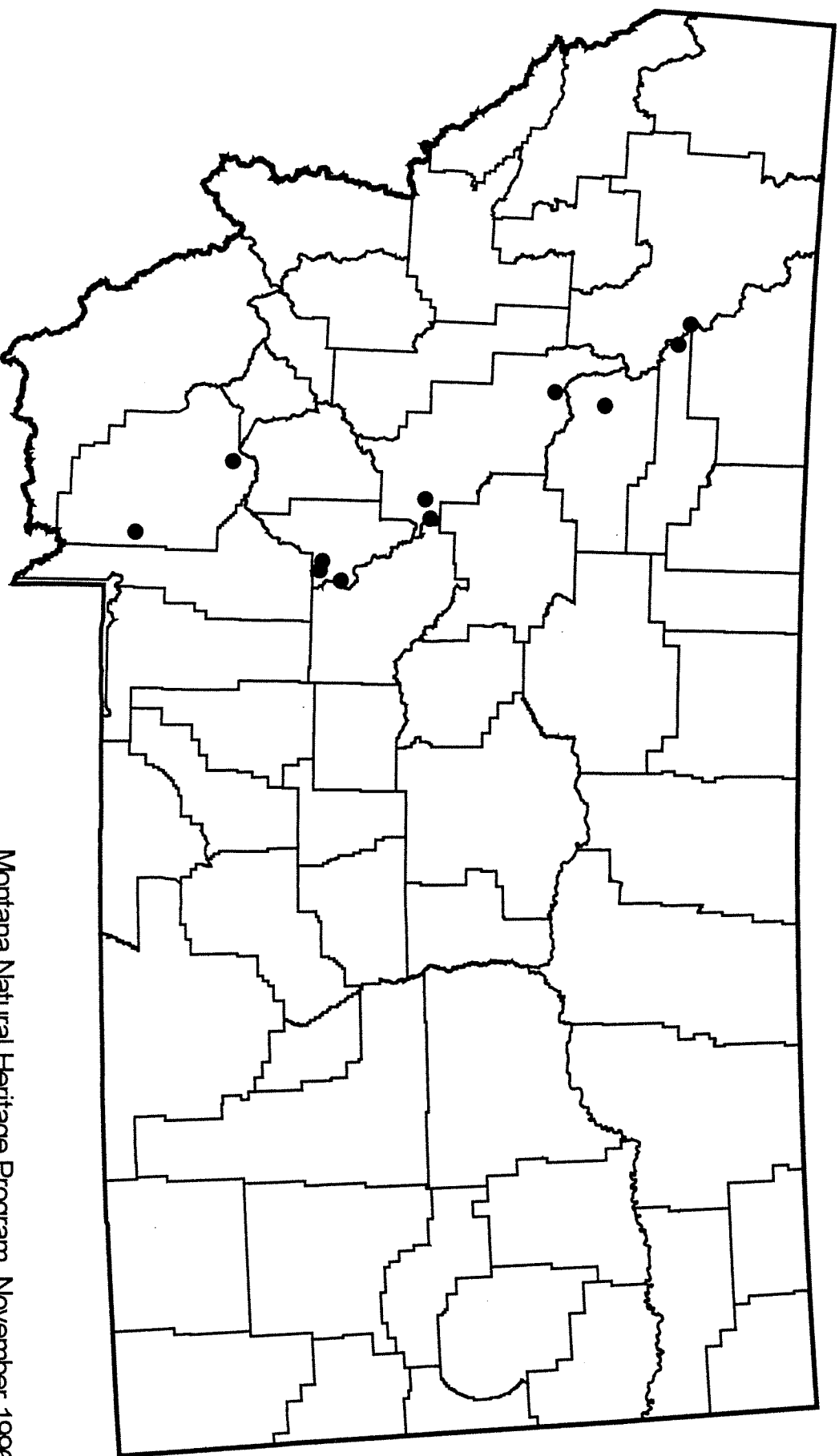
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, JEFFERSON RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, MADISON RANGER DISTRICT
EAR MOUNTAIN OUTSTANDING NATURAL AREA
EAR MOUNTAIN WILDLIFE MANAGEMENT AREA
GLACIER NATIONAL PARK
GREAT BEAR WILDERNESS
HELENA NATIONAL FOREST, HELENA RANGER DISTRICT
HELENA NATIONAL FOREST, TOWNSEND RANGER DISTRICT
LEE METCALF WILDERNESS, TAYLOR-HILGARD UNIT
LEWIS & CLARK NATIONAL FOREST, ROCKY MOUNTAIN RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

---REFERENCES---

- Poole, J. M. and B. L. Heidel. 1993. Sensitive plant surveys in the Big Belt and Elkhorn Mountains, Helena National Forest. Unpublished report to the Helena National Forest. Montana Natural Heritage Program. Helena, MT. 129 pp. plus printouts, maps.
- Vanderhorst, J. and B. L. Heidel. 1995. Sensitive plant survey in the Tobacco Root Mountains, Madison County, Montana. Unpublished report to the Beaverhead and Deerlodge National Forests. Montana Natural Heritage Program. Helena, MT. 66 pp. plus appendices.

Montana Distribution
of

Polygonum douglasii ssp *austinae* (Austin's Knotweed)



Montana Natural Heritage Program, November 1996

Potamogeton obtusifolius Mert. & Koch
(Blunt-leaved Pondweed)

Family: POTAMOGETONACEAE

Global rank: G5 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status:

Description: Blunt-leaved pondweed is an aquatic, rhizomatous perennial with slender, submergent or floating stems up to 100 cm long. The leaves are linear, 3-10 cm long, and 2-4 mm wide with a small round gland on either side at the base; there is a white-membranous leaf stipule that surrounds the stem above the point where the leaf diverges; herbage is glabrous. The minute flowers are borne on long-stalked, narrow, interrupted spikes in the axils of the upper leaves; flowers consist of only the stamens and ovary; there are no petals or sepals. The fruit (achene) is oval in outline, 3-4 mm long, and compressed with a keel on the outer edge. Mature fruit in late July and August.

The narrow-leaved pondweeds are a very difficult group. A technical key must be employed in order to distinguish among the species.

Global range: B.C. to Newf., south to NJ, KS, MN, WA, and WY. Peripheral.

State range: Flathead and Two Medicine river drainages and Lewis Range.

Montana counties: Flathead, Glacier, Lake, Missoula

Habitat: Shallow water of lakes, ponds, and sloughs in the valley, foothill, and montane zones. Elev. 3080-5200 ft.

Land Ownership Summary:

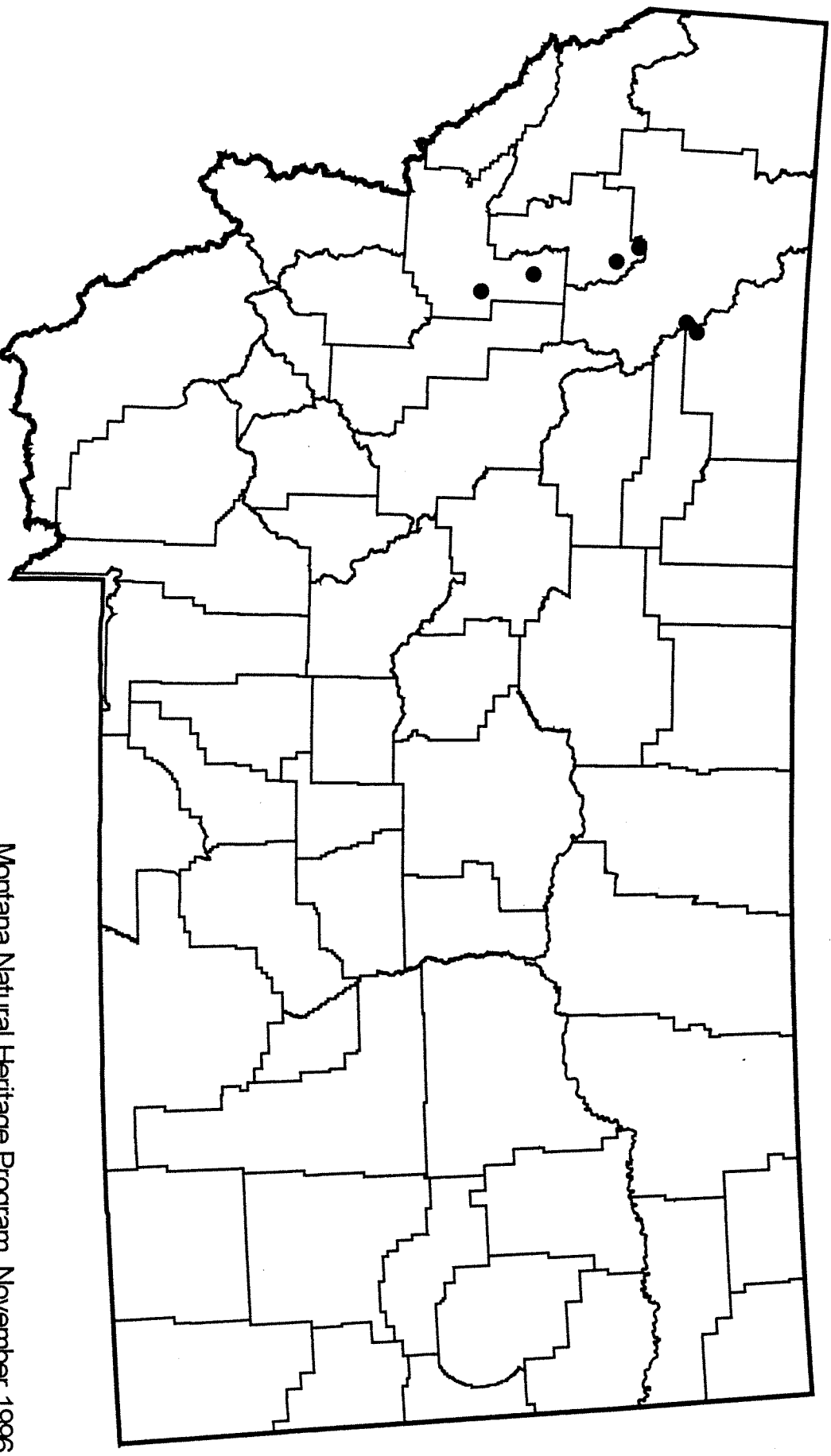
CORPORATE TIMBERLANDS
FLATHEAD NATIONAL FOREST, HUNGRY HORSE RANGER DISTRICT
FLATHEAD NATIONAL FOREST, SWAN LAKE RANGER DISTRICT
LEWIS & CLARK NATIONAL FOREST, ROCKY MOUNTAIN RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
STATE LAND - UNDESIGNATED
SWAN RIVER OXBOW PRESERVE

---REFERENCES---

- Aulio, K. and M. Salin. 1982. Enrichment of copper, zinc, manganese, and iron in five species of pondweeds (POTAMOGETON spp.). Bull. Environm. Contam. Toxicol. 29:320-325.
- Danell, K. 1977. Short-term plant successions following the colonization of a northern Swedish lake by the muskrat, ONDATRA ZIBETHICA. Journal of Applied Ecology 14:933-947.
- Pip, E. 1987. The ecology of POTAMOGETON species in central North America. Hydrobiologia 153:203-216.
- Toivonen, H. and C. Nybom. 1989. Aquatic vegetation and its recent succession in the waterfowl wetland Koijarvi, S. Finland. Ann. Bot. Fennici 26:1-14.
- Toivonen, H. and S. Back. 1989. Changes in aquatic vegetation of a small eutrophicated and lowered lake (southern Finland). Ann. Bot. Fennici 26:27-38.

Montana Distribution
of

Potamogeton obtusifolius (Blunt-leaved Pondweed)



Montana Natural Heritage Program, November 1996

Ranunculus jovis A. Nels.
(Jove's Buttercup)

Family: RANUNCULACEAE

Global rank: G4 USFS Region 1 status: SENSITIVE
State rank: S2 USFWS status:
 BLM status: DROPPED

Description: Jove's buttercup is a glabrous perennial with 1 to several stems, 4-10 cm tall, from a cluster of fleshy, club-shaped roots. The basal leaves (often lacking) are 2-3 cm long, with a petiole and a blade deeply divided into 3-5 narrow lobes; stem leaves are clustered together and are longer than the basal ones. The yellow flowers are solitary on the ends of stalks 2-6 cm long; the 5 separate petals are narrowly lance-shaped and 7-12 mm long; the glabrous sepals fall off shortly after opening. The fruit is an ovoid cluster of 50-200 achenes; these egg-shaped achenes are approximately 1 mm long, slightly compressed and finely hairy, with a straight, slender beak approximately 0.5 mm long. Flowering and fruiting April through June.

This species can be distinguished from other buttercups by the clustered, fleshy roots and the deeply 3-5 parted leaves.

Global range: Southeastern ID to NV, e. to sw. MT, Yellowstone National Park, sw. WY, and adjacent UT. Regional endemic.

State range: Centennial Mtns., Gravelly Range, Madison Range and Absaroka-Beartooth Mtns.

Montana counties: Beaverhead, Gallatin, Madison, Park

Habitat: Sagebrush grasslands to open forested slopes in the montane and subalpine zones.
Elev. 6700-9500 ft.

Land Ownership Summary:

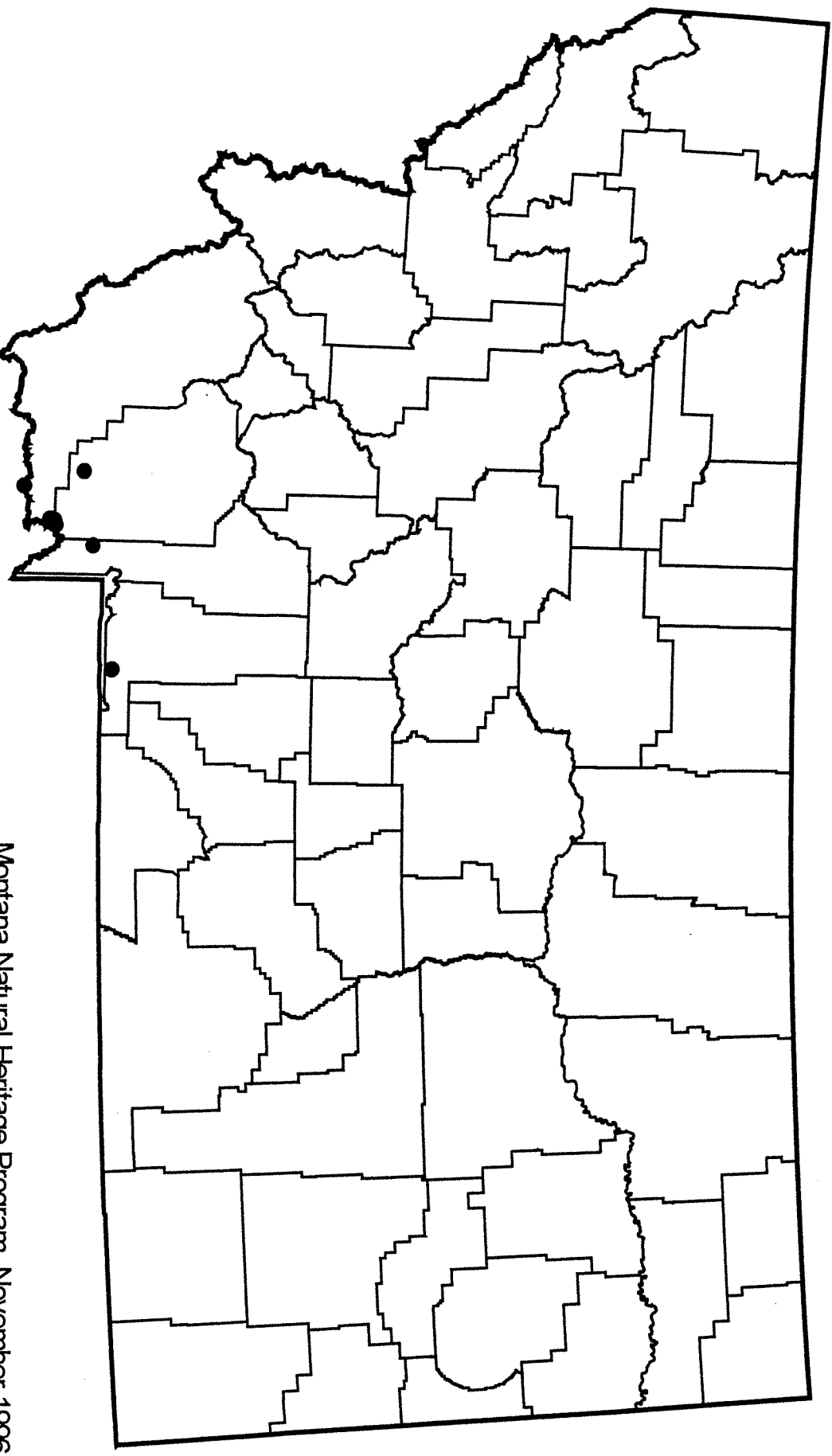
ABSAROKA-BEARTOOTH WILDERNESS
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, MADISON RANGER DISTRICT
GALLATIN NATIONAL FOREST, GARDINER RANGER DISTRICT
GALLATIN NATIONAL FOREST, HEBGEN LAKE RANGER DISTRICT
U.S. SHEEP EXPERIMENT STATION
YELLOWSTONE NATIONAL PARK

---REFERENCES---

Nixon, J. 1993. RANUNCULUS JOVIS A. Nels. in Montana. Unpublished report for the Gallatin National Forest and Montana Natural Heritage Program. 13 pp.

Montana Distribution
of

Ranunculus jovis (Jove's Buttercup)



Montana Natural Heritage Program, November 1996

Salix barrattiana Hook.
(Barratt's Willow)

Family: SALICACEAE

Global rank: G5 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
BLM status:

Description: Barratt's willow is a much-branched shrub up to 1 m tall, with young twigs that are sticky and covered with long, soft hairs. The leaves have petioles 5-14 mm long, and entire, elliptic or broadly lance-shaped blades 4-7 cm long; they are densely covered with long gray hair beneath, thinly so above. The flowers are without petals and sepals and are borne in dense spike-like inflorescences (aments or catkins); these are erect and sessile on twigs formed the previous year. The male and female aments occur on separate plants; the seed capsules are hairy, and the bracts subtending them are black; the female aments are 4-9 cm long; the males are 2-5 cm long. Mature fruit in July and August.

Species of willow are often difficult to identify. The alpine habitat, sessile catkins, and sticky twigs will usually distinguish *S. BARRATTIANA* from the others in our area. Good specimens with both leaves and mature female catkins are necessary for positive identification.

Global range: AK and Yuk., south to B.C., MT, and WY. Sparse.

State range: Beartooth Mtns. and Lewis Range.

Montana counties: Carbon, Glacier

Habitat: Cold, moist soil in the alpine zone. Elev. 6800-10000 ft.

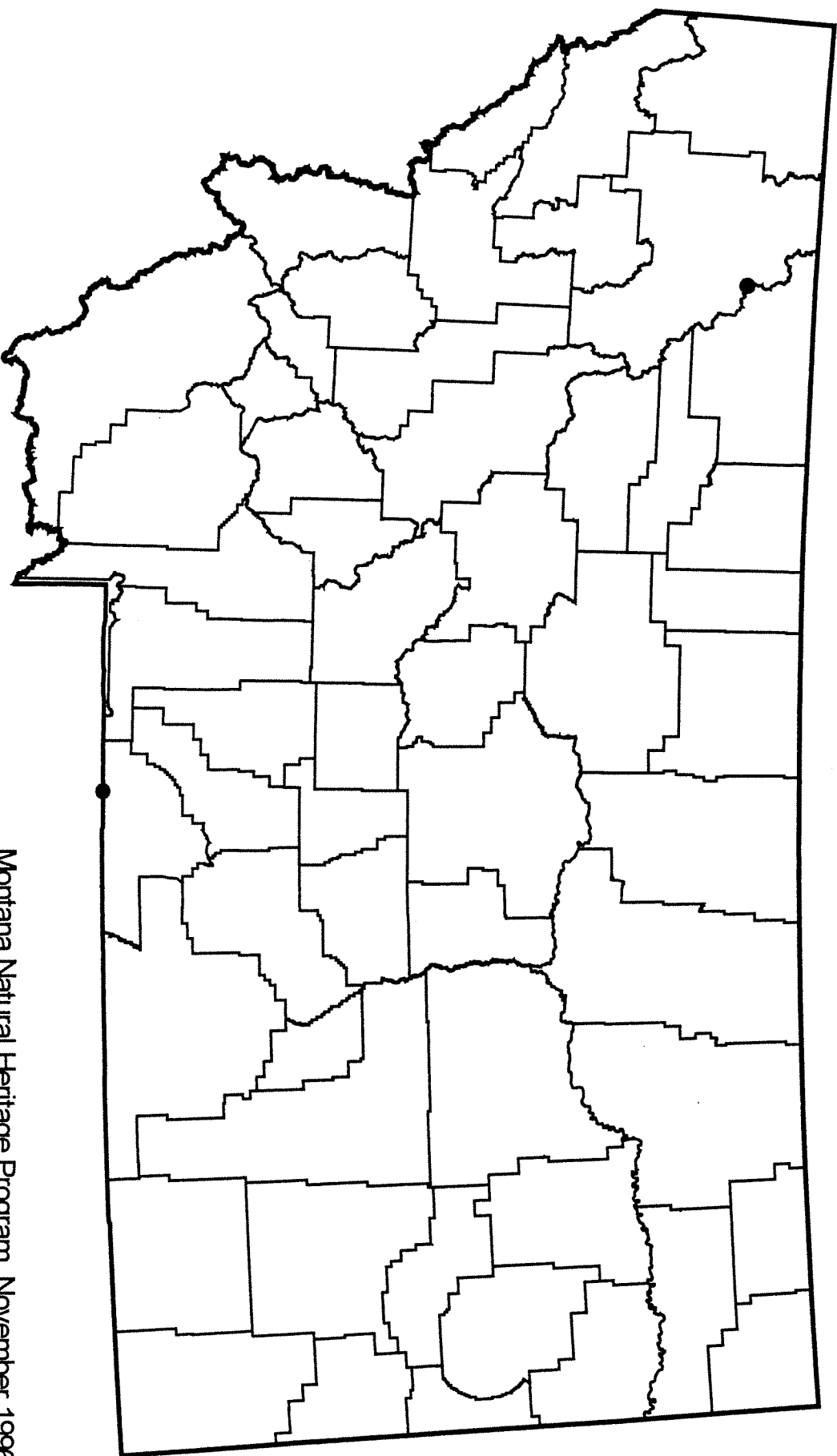
Land Ownership Summary:
CUSTER NATIONAL FOREST, BEARTOOTH RANGER DISTRICT
GLACIER NATIONAL PARK

---REFERENCES---

Lesica, P. 1993. Vegetation and flora of the Line Creek Plateau area, Carbon County, Montana. Unpublished report to USDA Forest Service, Intermountain Research Station. Montana Natural Heritage Program, Helena. 30 pp.

Montana Distribution
of

Salix barrattiana (Barratt's Willow)



Montana Natural Heritage Program, November 1996

Salix wolfii var wolfii
(Wolf's Willow)

Family: SALICACEAE

Global rank: G5?T4 USFS Region 1 status: SENSITIVE
State rank: S2 USFWS status:
 BLM status:

Description: Wolf's willow is a much-branched shrub, 60-200 cm tall, with young twigs that are loosely covered with long, soft hairs. The leaves have short petioles 210 mm long, and entire-margined, elliptic blades up to 4 cm long; they are usually densely covered with white hairs, more so beneath than above. The flowers are without petals and sepals and are borne in dense spike-like inflorescences (aments or catkins); these are subtended by 2-5 leaf-like bracts and borne on the twigs below the current year's terminal growth. The male and female aments occur on separate plants; the female aments are 1-3 cm long; the males are slightly smaller; the capsules are 3-5 mm long, glabrous or slightly hairy, and subtended by a brown scale. Mature fruit in July and August.

Species of willow are difficult to identify. A technical key should be consulted in order to distinguish *S. WOLFII* var. *WOLFII* from closely related species. Good specimens with both leaves and mature female catkins are necessary for positive identification.

Global range: Southwest MT and e. ID, south to CO and UT. The species as a whole occurs from OR to MT, south to NV, UT and CO. Peripheral.

State range: Madison Range, Gravelly Range, and Anaconda Range.

Montana counties: Deer Lodge, Gallatin, Madison, Park, Ravalli

Habitat: Streambanks and wet meadows in the montane and subalpine zones. Elev. 6500-8400 ft.

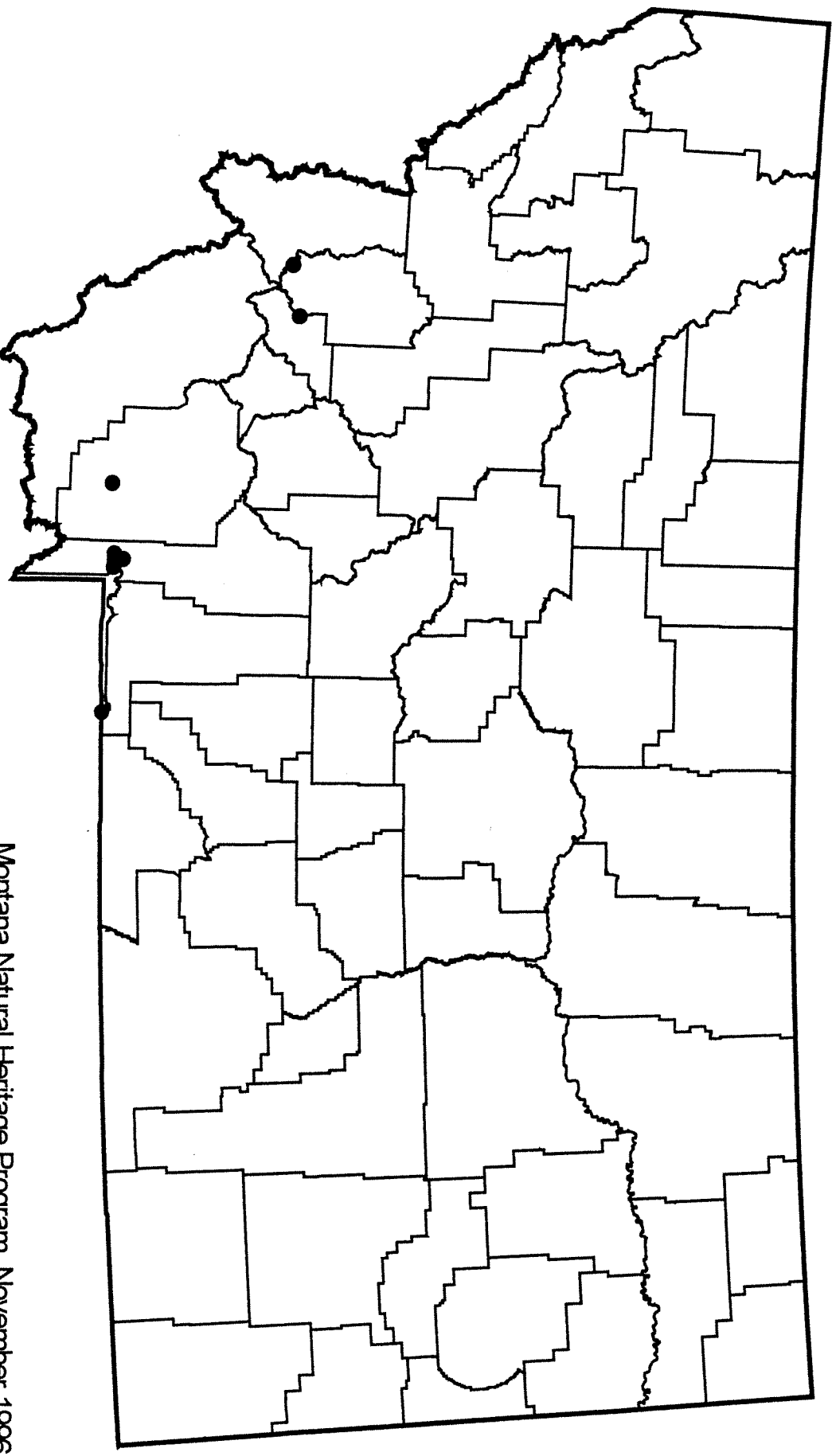
Land Ownership Summary:

BEAVERHEAD-DEERLODGE NATIONAL FORESTS, DEER LODGE RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, MADISON RANGER DISTRICT
BITTERROOT NATIONAL FOREST, SULA RANGER DISTRICT
GALLATIN NATIONAL FOREST, BOZEMAN RANGER DISTRICT
GALLATIN NATIONAL FOREST, HEBGEN LAKE RANGER DISTRICT
GALLATIN WILDLIFE MANAGEMENT AREA
NINE QUARTER CIRCLE RANCH CONSERVATION EASEMENT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

---REFERENCES---

Montana Distribution
of

Salix wolfii v. *wolfii* (Wolf's Willow)



Montana Natural Heritage Program, November 1996

Saussurea densa (Hook.) Rydb.
(Dwarf Saw-wort)

Family: ASTERACEAE

Global rank: G3G5 USFS Region 1 status: SENSITIVE
State rank: S2 USFWS status:
 BLM status:

Description: Dwarf saw-wort is a dwarf perennial herb, 5-20 cm high from a woody rootstock. The lance-shaped leaf blades are coarsely toothed, up to 8 cm long, and have a broad petiole; the alternate leaves are crowded on the stem, reduced and lacking petioles towards the top; the herbage is covered with long, tangled hairs when young, but becomes glabrous with age. The purple flowering heads are borne in a dense cluster subtended by leaves at the top of the stem; the narrow involucre bracts of the heads are 11-15 mm long; all of the flowers are tubular (disk flowers); ray flowers are absent. The seeds (achenes) have numerous minutely branched bristles (pappus) at the top. Flowering in July and early August, fruiting in late August.

The clustered, purple, rayless flowering heads, together with the rocky, high elevation habitat, are distinctive. The similar *S. WEBERI*, occurs in southwest Montana mountains and has broad involucre bracts with rounded tips.

Global range: Southwest MT to CO. Disjunct.

State range: Front Range.

Montana counties: Lewis and Clark, Pondera, Teton

Habitat: Calcareous soil of talus slopes and rocky, open slopes in the alpine zone. Elev. 5760-8300 ft.

Land Ownership Summary:

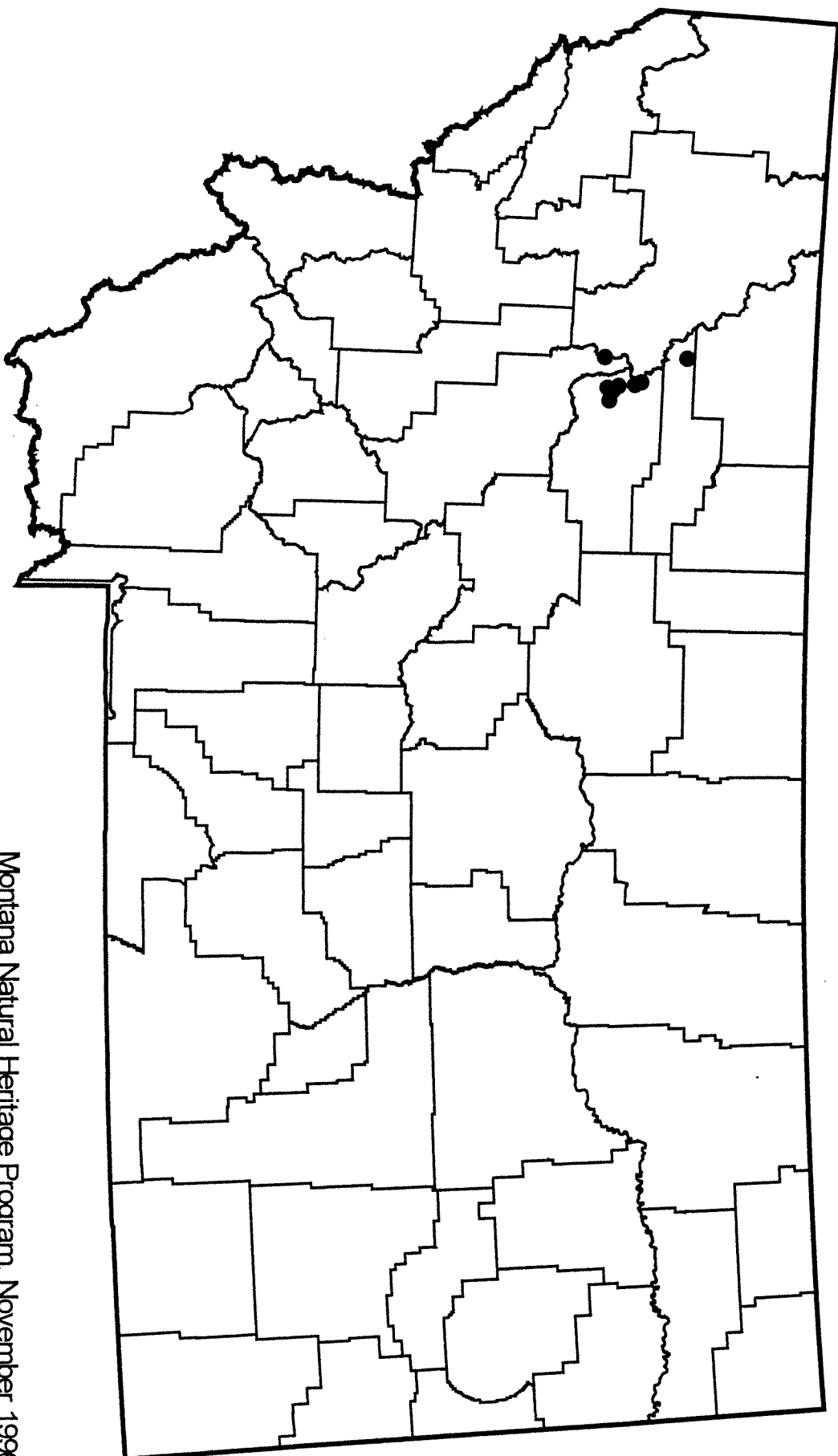
BOB MARSHALL WILDERNESS
LEWIS & CLARK NATIONAL FOREST, ROCKY MOUNTAIN RANGER DISTRICT
SUN RIVER WILDLIFE MANAGEMENT AREA

---REFERENCES---

Watson, T. J. and K. H. Lackschewitz. 1980. The genus *SAUSSUREA* (Asteraceae-Cynareae) in Montana. Northwest Science 54(2):106-108.

Montana Distribution
of

Saussurea densa (Dwarf Saw-wort)



Montana Natural Heritage Program, November 1996

Saussurea weberi Hulten
(Weber's Saw-wort)

Family: ASTERACEAE

Global rank: G3Q USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status:

Description: Weber's saw-wort is a dwarf perennial herb, 5-20 cm high from a woody rootstock. The lance-shaped leaf blades are coarsely toothed, up to 8 cm long, and have a broad petiole; the alternate leaves are crowded on the stem, reduced, and lacking petioles towards the top; herbage is covered with long tangled hairs when young, but becomes glabrous with age. The purple flowering heads are borne in a dense cluster subtended by leaves at the top of the stem; the broad involucre bracts of the heads have rounded tips and are 11-15 mm long; all of the flowers are tubular (disk flowers); ray flowers are absent. The seeds (achenes) have numerous minutely-branched bristles (pappus) at the top. Flowering in July and early August.

The clustered, purple, rayless flowering heads, together with the high elevation habitat, are distinctive. The similar *S. DENSA*, occurring in the northwest mountains, has narrow, pointed involucre bracts.

Global range: Southwest MT to CO. Disjunct.

State range: Anaconda Range.

Montana counties: Deer Lodge, Granite

Habitat: Moist meadows in the alpine zone. Elev. 9300-9400 ft.

Land Ownership Summary:

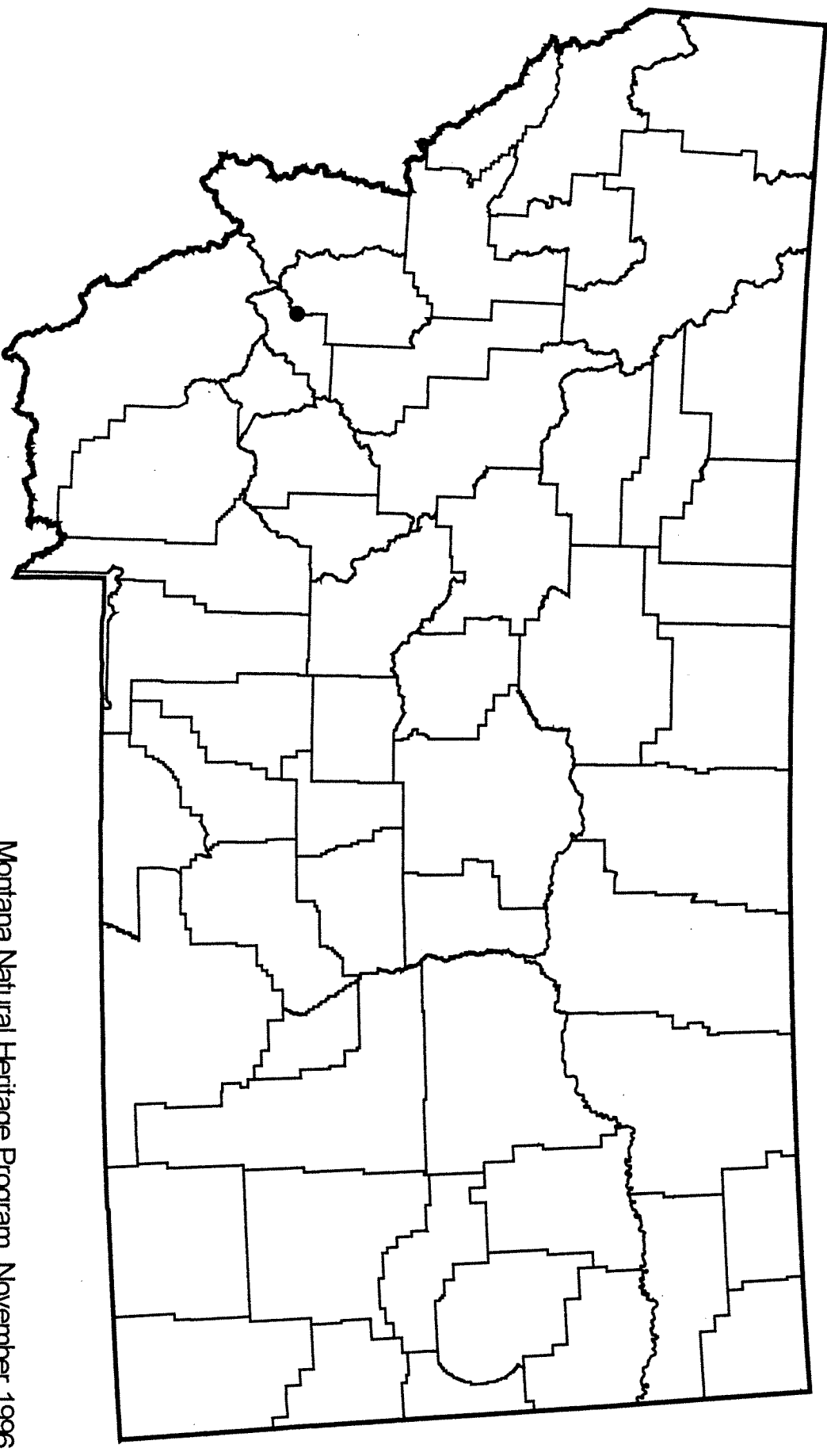
ANACONDA-PINTLER WILDERNESS
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, PHILIPSBURG RANGER DISTRICT

---REFERENCES---

- Achuff, P. L. and L. S. Roe. 1992. Botanical survey of the Goat Flat Proposed Research Natural Area. Unpublished report to the Deerlodge National Forest. Montana Natural Heritage Program, Helena, MT. 31 pp.
- Lackschewitz, K. H. 1976. Montana mountain flora: new records. Madrono 23:360-362.
- Marriott, Hollis. 1991. Field survey for *ANDROSACE CHAMAEJASME* var. *CARINATA* and *SAUSSUREA WEBERI*, Northwest Wind River Range, Wyoming. Unpublished report to the Bridger-Teton National Forest. Wyoming Natural Diversity Database, The Nature Conservancy. 21 pp.
- Watson, T. J. and K. H. Lackschewitz. 1980. The genus *SAUSSUREA* (Asteraceae-Cynareae) in Montana. Northwest Science 54(2):106-108.

Montana Distribution
of

Saussurea weberi (Weber's Saw-wort)



Montana Natural Heritage Program, November 1996

Saxifraga tempestiva Elvander & Denton
(Storm Saxifrage)

Family: SAXIFRAGACEAE

Global rank: G2 USFS Region 1 status: SENSITIVE
State rank: S2 USFWS status:
 BLM status:

Description: Storm saxifrage is a small perennial with a basal rosette of leaves and 1 to a few naked stems, 3-8 cm tall, arising from a simple or branched rootstock. The glabrous, mostly entire-margined leaves are 5-25 mm long, and linear to egg-shaped with an indistinct petiole. The white flowers are borne in 1 to a few compact clusters at the top of the stem; the separate sepals are spreading or erect and 1-3 mm long; the 5 separate petals are approximately 1 mm long, always shorter than the sepals; anthers are orange. The fruit is a two-lobed capsule. Flowering in June and July.

SAXIFRAGA RHOMBOIDEA, S. INTEGRIFOLIA, S. OREGANA, and S. OCCIDENTALIS are similar species that may occur in similar alpine habitats. SAXIFRAGA TEMPESTIVA can be distinguished by the combination of small size, more nearly linear leaves, and petals that are smaller than the sepals, rather than longer or absent.

Global range: Southwest MT. Regional endemic.

State range: Anaconda Range, Bitterroot Mtns., Flint Creek Range, Pioneer Mtns. and Sapphire Mtns.

Montana counties: Beaverhead, Deer Lodge, Granite, Madison, Ravalli

Habitat: Vernally moist, open soil in meadows and on rock ledges in the subalpine and alpine zones. Elev. 7920-9900 ft.

Land Ownership Summary:

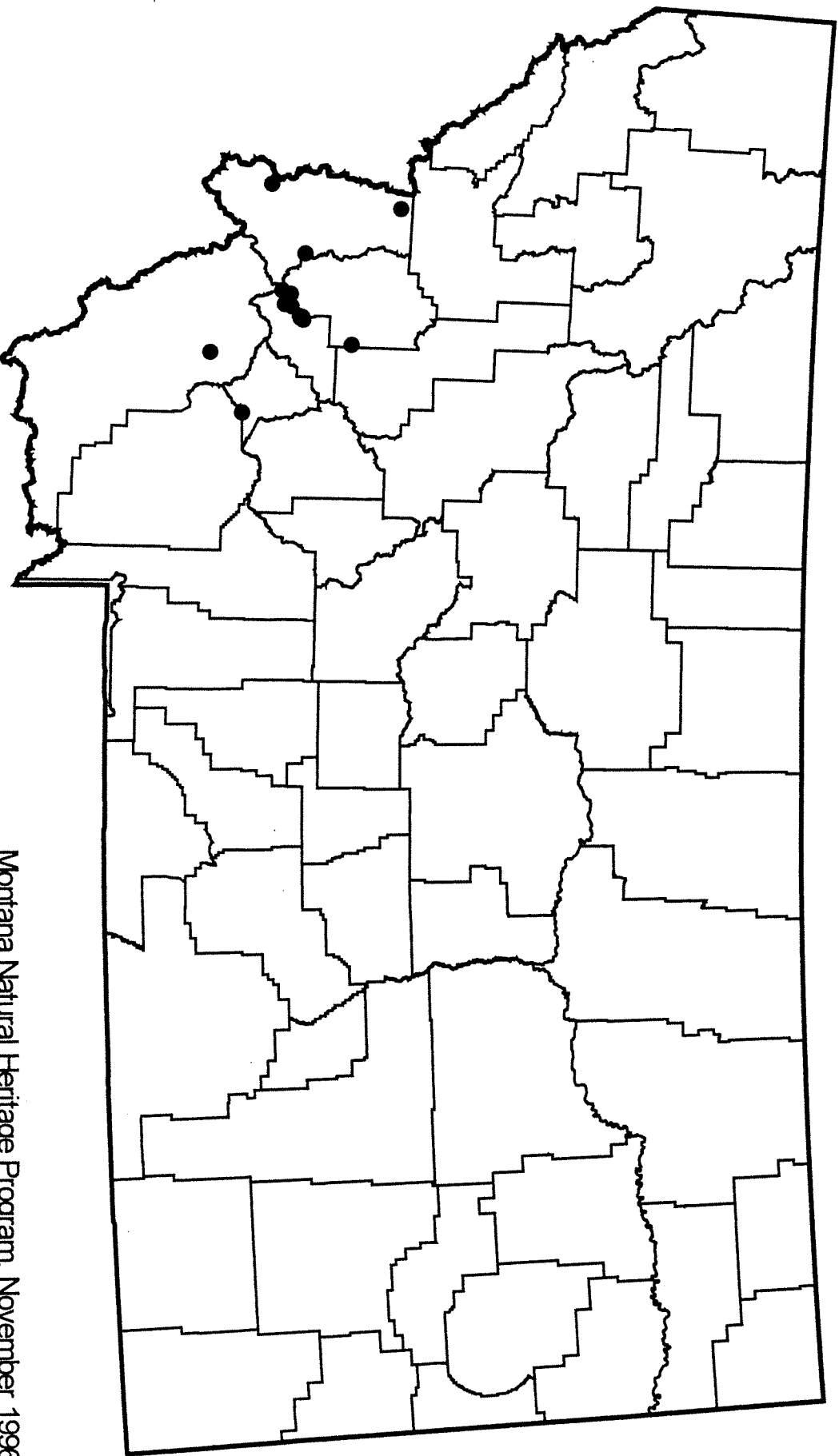
ANACONDA-PINTLER WILDERNESS
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, DEER LODGE RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, DILLON RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, JEFFERSON RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, PHILIPSBURG RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, WISE RIVER RANGER DISTRICT
BITTERROOT NATIONAL FOREST, DARBY RANGER DISTRICT
BITTERROOT NATIONAL FOREST, STEVENSVILLE RANGER DISTRICT
BITTERROOT NATIONAL FOREST, WEST FORK RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
SELWAY-BITTERROOT WILDERNESS

---REFERENCES---

- Achuff, P. L. and L. S. Roe. 1992. Botanical survey of the Goat Flat Proposed Research Natural Area. Unpublished report to the Deerlodge National Forest. Montana Natural Heritage Program, Helena, MT. 31 pp.
- Elvander, P. E. 1984. The taxonomy of SAXIFRAGA (SAXIFRAGACEAE) section BORAPHILA subsection INTEGRIFOLIAE in western North America. Systematic Botany Monographs 3:1-44.
- Elvander, P. E. and M. F. Denton. 1976. SAXIFRAGA TEMPESTIVA (SAXIFRAGACEAE), a new species from the Pacific Northwest. Madrono 23:346-354.
- Lesica, P. 1992. Vascular plant and sensitive plant species inventory for the Highland Mountains, Deerlodge National Forest. Unpublished report. Montana Natural Heritage Program, Helena, MT. 21 pp. plus appendices, photographs.
- Schassberger, L. A. 1991. Rare plant inventory of the East Pioneer Mountains, Beaverhead National Forest. Unpublished report. Montana Natural Heritage Program Helena, MT. 55 pp.

Montana Distribution
of

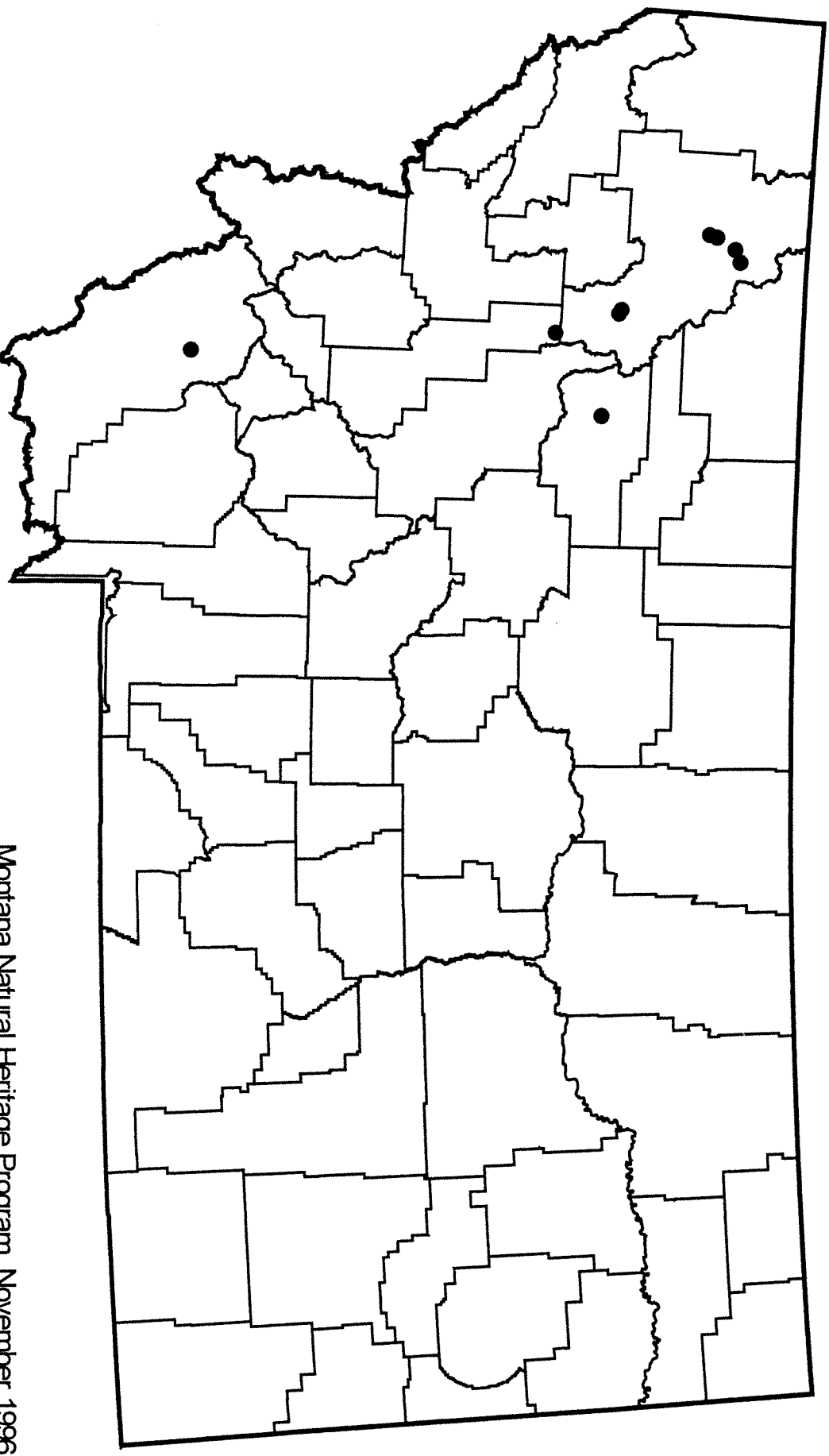
Saxifraga tempestiva (Storm Saxifrage)



Montana Natural Heritage Program, November 1996

Montana Distribution
of

Scirpus cespitosus (Tufted Club-rush)



Montana Natural Heritage Program, November 1996

Scirpus subterminalis Torr.
(Water Bulrush)

Family: CYPERACEAE

Global rank: G4G5 USFS Region 1 status: SENSITIVE
State rank: S2 USFWS status:
 BLM status:

Description: Water bulrush is a rhizomatous perennial with slender, weak stems 20-80 cm long that float on the water's surface rather than emerge from it. Leaves are long and flaccid and arise mainly from near the base of the plant. The inflorescence consists of a solitary spike subtended by a green, leaf-like bract, 1-6 cm long, that is held nearly erect and appears to be a continuation of the stem; the light brown spike is composed of numerous, membranous scales, each subtending a flower consisting of 3 stamens and an ovary with 6 slender bristles arising from the base. The ovary matures into a three-sided achene (seed) that is 2-4 mm long. Flowering in late June through July, fruiting in August.

The flaccid stems and aquatic habit distinguish this species from all other SCIRPUS in our area.

Global range: Ak to Newf., south to GA, MO, WY, UT, ID, and OR, absent in the Great Plains. Sparse.

State range: Upper Flathead, Blackfoot and Tobacco river drainages.

Montana counties: Flathead, Lewis and Clark, Lincoln, Missoula

Habitat: Shallow, fresh water and boggy margins of ponds, lakes, and sloughs in the valley, foothill, and montane zones. Elev. 2890-6000 ft.

Land Ownership Summary:

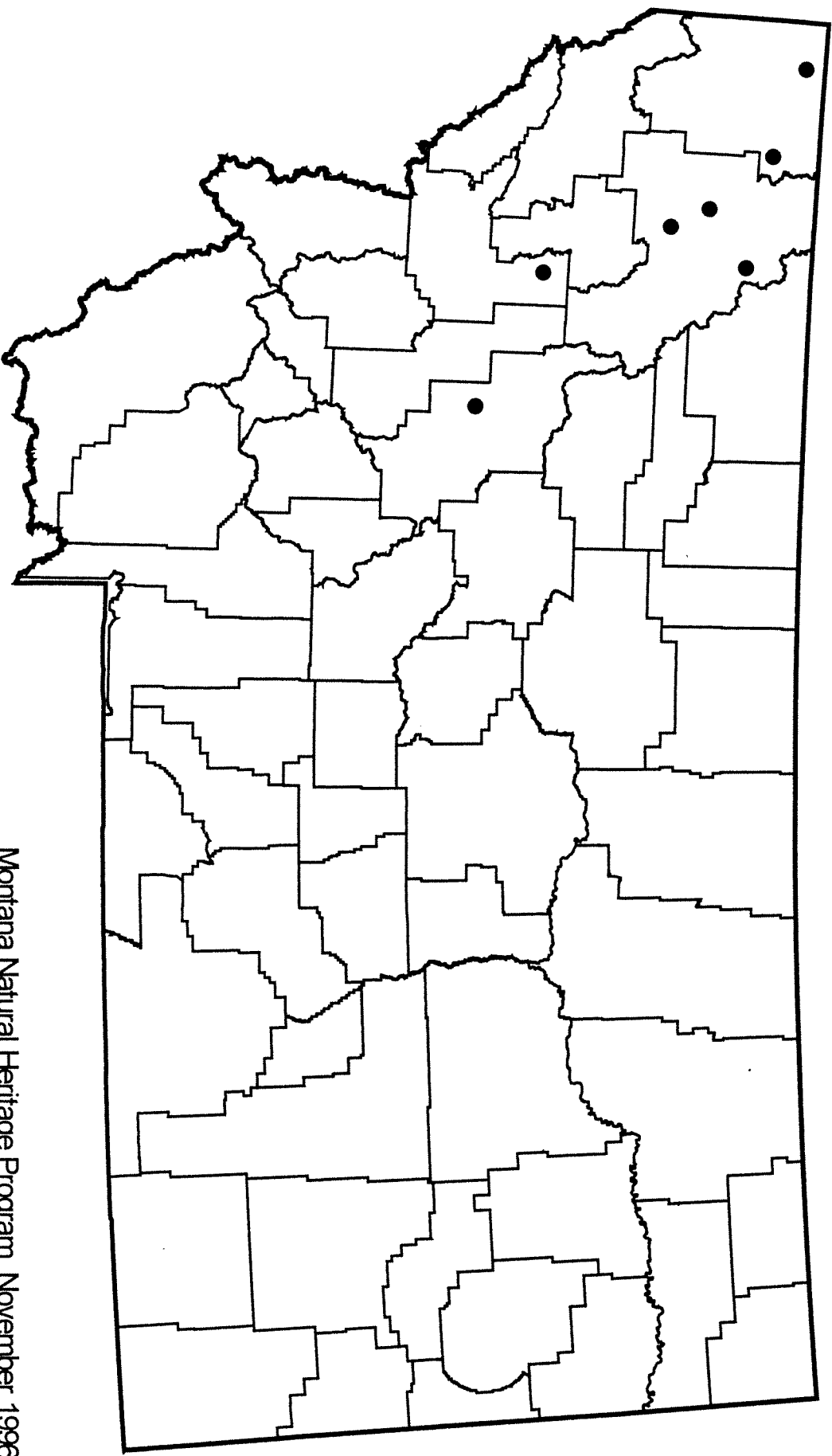
CORPORATE TIMBERLANDS
EGAN SLOUGH CONSERVATION EASEMENT
GLACIER NATIONAL PARK
HELENA NATIONAL FOREST, LINCOLN RANGER DISTRICT
HOSKINS LAKE RESEARCH NATURAL AREA
INDIAN MEADOWS PROPOSED RESEARCH NATURAL AREA
KOOTENAI NATIONAL FOREST, FORTINE RANGER DISTRICT
KOOTENAI NATIONAL FOREST, THREE RIVERS RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

---REFERENCES---

- Hoitsma, T. 1992. Sensitive Plant Survey, Fortine Ranger District, Kootenai National Forest. Unpublished report. 65 pp. plus appendices.
- Moseley, R. K. 1991. Floristic inventory of wetlands in Fremont and Teton Counties, Idaho. Unpublished report. Idaho Department of Fish and Game, Boise, Idaho. 60 pp. plus appendices.

♂

Scirpus subterminalis (Water Bulrush)



Montana Natural Heritage Program, November 1996

Shoshonea pulvinata Evert & Constance
(Shoshonea)

Family: APIACEAE

Global rank: G2G3 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status: SENSITIVE

Description: A low, mat-forming, herbaceous, long-lived perennial. Plants have a woody taproot and branching underground stems; the aboveground stems are 2-8 cm in length, and usually clothed at the base with remnants of the previous year's leaf sheaths. Leaves are approximately 5-25 mm long and 3-20 mm wide, with a petiole approximately half the length of the leaf; leaf blades are oddly pinnate with 5-11 divisions, and oblong to oval in outline; leaf petioles are swollen and papery at the base and herbage is glabrous to somewhat roughened. The smallest flower clusters consist of a number of stalked flowers attached at a single point (simple umbels); these clusters are, in turn, stalked and attached at the top of the ovary. The fruits are approximately 2-4 mm long, slightly roughened to the touch, and without wings. Flowering late June through July.

In open habitats, this species forms dense cushions, and cannot be mistaken for any other member of the Parsley Family in our area. In partially shaded sites, the cushion-forming habit is not so strongly expressed and SHOSHONEA can be mistaken for species of MUSINEON, CYMOPTERUS, and LOMATIUM. A technical key should be consulted to separate these groups.

Global range: Southcentral MT, nw. WY. Regional endemic.

State range: Pryor Mtns. and Beartooth Mtns.

Montana counties: Carbon

Habitat: Barren, shallow, limestone-derived soil of windswept outcrops, ridgetops, and canyon rims in the montane zone, often adjacent to limber pine or Douglas-fir forest. Elev. 6440-7800 ft.

Land Ownership Summary:

BIGHORN CANYON NATIONAL RECREATION AREA
BLM: MILES CITY DISTRICT, BILLINGS RESOURCE AREA
CUSTER NATIONAL FOREST, BEARTOOTH RANGER DISTRICT
LOST WATER CANYON RESEARCH NATURAL AREA
MEETEETSE SPIRES ACEC
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
PRYOR MOUNTAIN WILD HORSE RANGE

---REFERENCES---

- Dorn, R. D. 1989. Report on the status of SHOSHONEA PULVINATA, a candidate threatened species. Unpublished report. Mountain West Environmental Services, Cheyenne, WY. 32 pp.
- Evert, E. F. and L. Constance. 1982. SHOSHONEA PULVINATA, a new genus and species of UMBELLIFERAE from Wyoming. Syst. Bot. 7:471-475.
- Fertig, W. 1992. Sensitive plant species surveys and revised species checklist, Grass Creek Resource area, Bureau of Land Management. Wyoming Natural Diversity Database, The Nature Conservancy. 84 pp.
- Lesica, P. 1992. Monitoring populations of SHOSHONEA PULVINATA in the Pryor and Beartooth Mountains, Carbon County, Montana. Montana Natural Heritage Program. Helena, MT. 11 pp. plus tables.
- Lesica, P. 1993. Monitoring populations of SHOSHONEA PULVINATA in the Pryor and Beartooth mountains, Carbon County, Montana: 1991-1993 baseline report. Unpublished report prepared for the Bureau of Land Management, Miles City District. Montana Natural Heritage Program, Helena. 6pp. plus appendices. plus

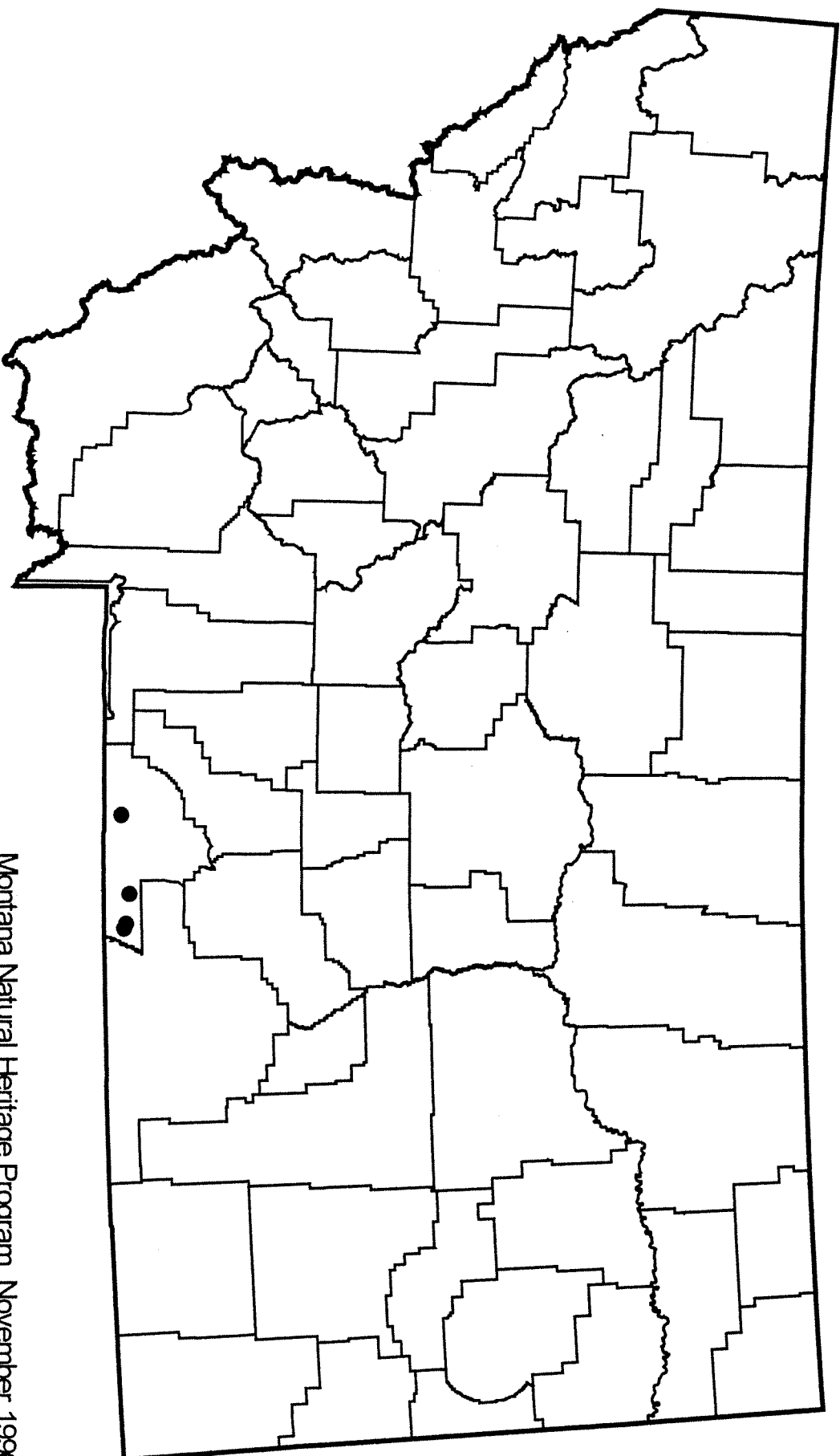
Lesica, P. and J. S. Shelly. 1988. Report on the conservation status of SHOSHONEA PULVINATA, a candidate threatened species. Unpublished report to the U.S. Fish and Wildlife Service, Denver, CO. 41 pp.

Lesica, P. and P. L. Achuff. 1991. Monitoring populations of SHOSHONEA PULVINATA in the Pryor and Beartooth mountains: 1991 establishment report. Unpublished report to the Montana State Office, Bureau of Land Management. Montana Natural Heritage Program, Helena. 26 pp.

Marriott, H. 1992. Field survey for CLAYTONIA LANCEOLATA var. FLAVA, CRYPTANTHA SUBCAPITATA and SHOSHONEA PULVINATA in the Owl Creek and southeast Absaroka Mountains, Wyoming. [report prepared for BLM, Grass Creek Resource Area]. Wyoming Natural Diversity Database, The Nature Conservancy. 28 pp.

Montana Distribution
of

Shoshonea pulvinata (Shoshonea)



Montana Natural Heritage Program, November 1996

Thalictrum alpinum L.
(Alpine Meadowrue)

Family: RANUNCULACEAE

Global rank: G5 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status: SENSITIVE

Description: Alpine meadowrue is a small perennial herb, with mostly simple and nearly leafless stems 3-18 cm tall from extensive, slender rhizomes. Leaves have a slender petiole and are twice-pinnately divided into broad, 3-lobed segments 3-8 mm long; herbage is glabrous (occasionally glandular) and covered with a thin bluish wax. Flowers have both anthers and pistils and are borne on short, nodding stalks in a narrow, terminal inflorescence; the 5 small sepals are purplish and fall soon after opening; petals are lacking. The 2-4 fruits (achenes) are narrowly elliptic in outline, 2-4 mm long and prominently ribbed. Flowering in late May and June, fruiting in July.

The small size, and flowers with both anthers and pistils, distinguish this species from all other members of the genus.

Global range: Circumpolar, south in N. America to Que., CO, NV, and CA. Sparse.

State range: Centennial Mtns., Tendoy Mtns. and Anaconda Range.

Montana counties: Beaverhead, Granite

Habitat: On hummocks often beneath low shrubs in moist, alkaline meadows, in the montane zone. Elev. 6750-8200 ft.

Land Ownership Summary:

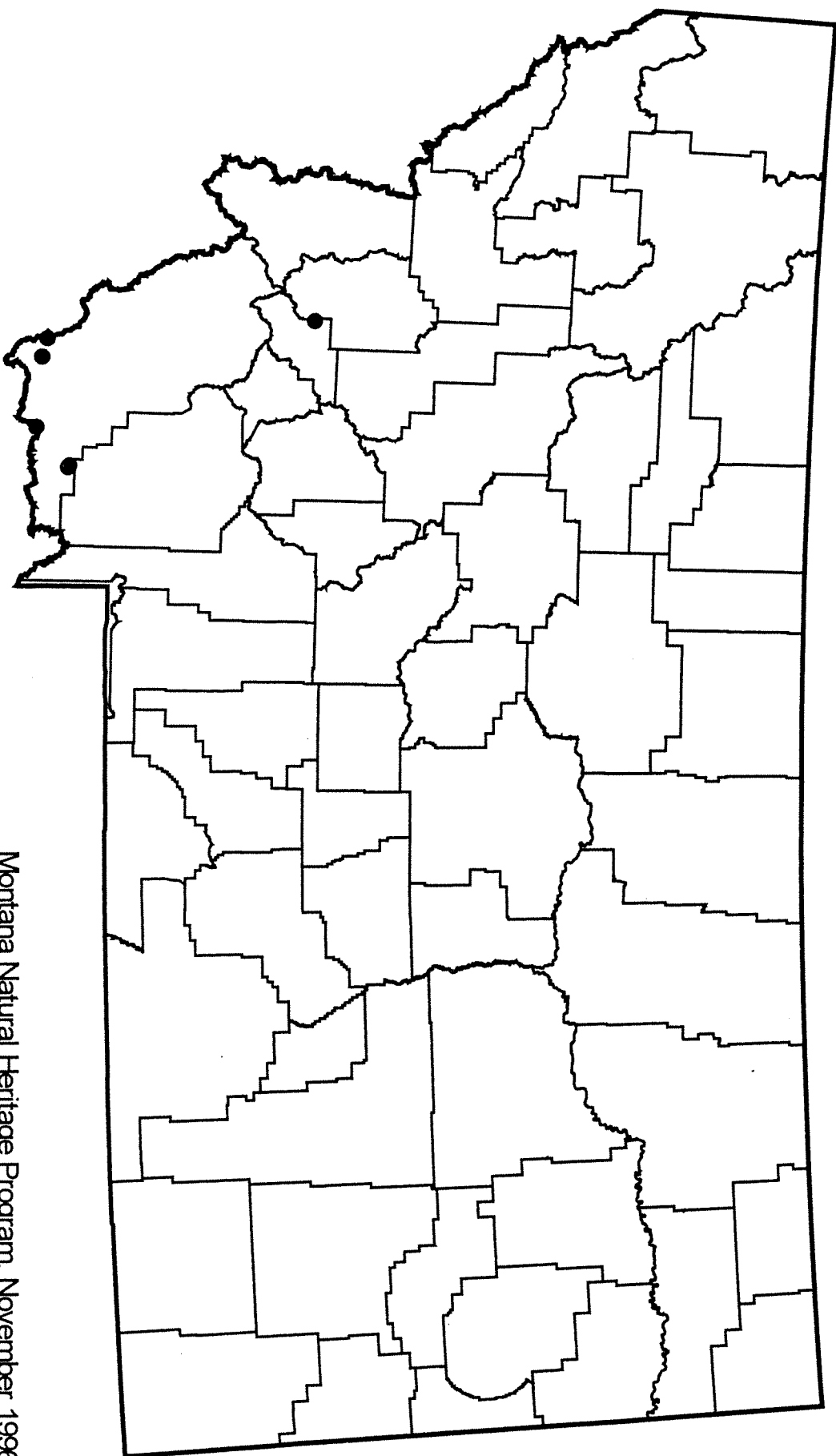
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, DILLON RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, MADISON RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, PHILIPSBURG RANGER DISTRICT
BLM: BUTTE DISTRICT, DILLON RESOURCE AREA
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

---REFERENCES---

- Lackschewitz, K., P. Lesica and J. S. Shelly. 1988. Noteworthy collections: Montana. Madrono 35:355-358.
- Lesica, P. 1990. Vegetation and sensitive vascular plants of Morrison Lake, Harkness Lakes and Nicholia Creek wetlands, Beaverhead County, Montana. Report to Beaverhead National Forest, Dillon, Montana. 28 pp.
- Vanderhorst, J. P. and P. Lesica. 1994. Sensitive plant survey in the Tendoy Mountains, Beaverhead County, Montana. Unpublished report to the Bureau of Land Management, Butte District. Montana Natural Heritage Program, Helena. 59 pp. plus appendices.

Montana Distribution
of

Thalictrum alpinum (Alpine Meadowrue)



Montana Natural Heritage Program, November 1996

Thelypteris phegopteris (L.) Slosson
(Northern Beechfern)

Family: THELYPTERIDACEAE

Global rank: G5 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
BLM status:

Description: Northern beechfern has leaves scattered along long, slender rhizomes. Leaves are 1.5-5 dm long, with about half of the length being a long, slender petiole; the blades are beset with hairs, especially ciliate hairs along the margins and rachis; there are 10-25 pairs of pinnae in each pinnately compound leaf. The sori, or reproductive structures, are borne just inside the margins of each pinnule.

There are many fern species which are difficult to identify from each other. A technical key should be consulted.

Global range:

State range: Cabinet Mtns., Purcell Mtns. and Lewis Range.

Montana counties: Flathead, Glacier, Lincoln, Sanders

Habitat: Moist forests and shaded cliffs in the valleys to the subalpine zone. Elev.
2400-7000 ft.

Land Ownership Summary:

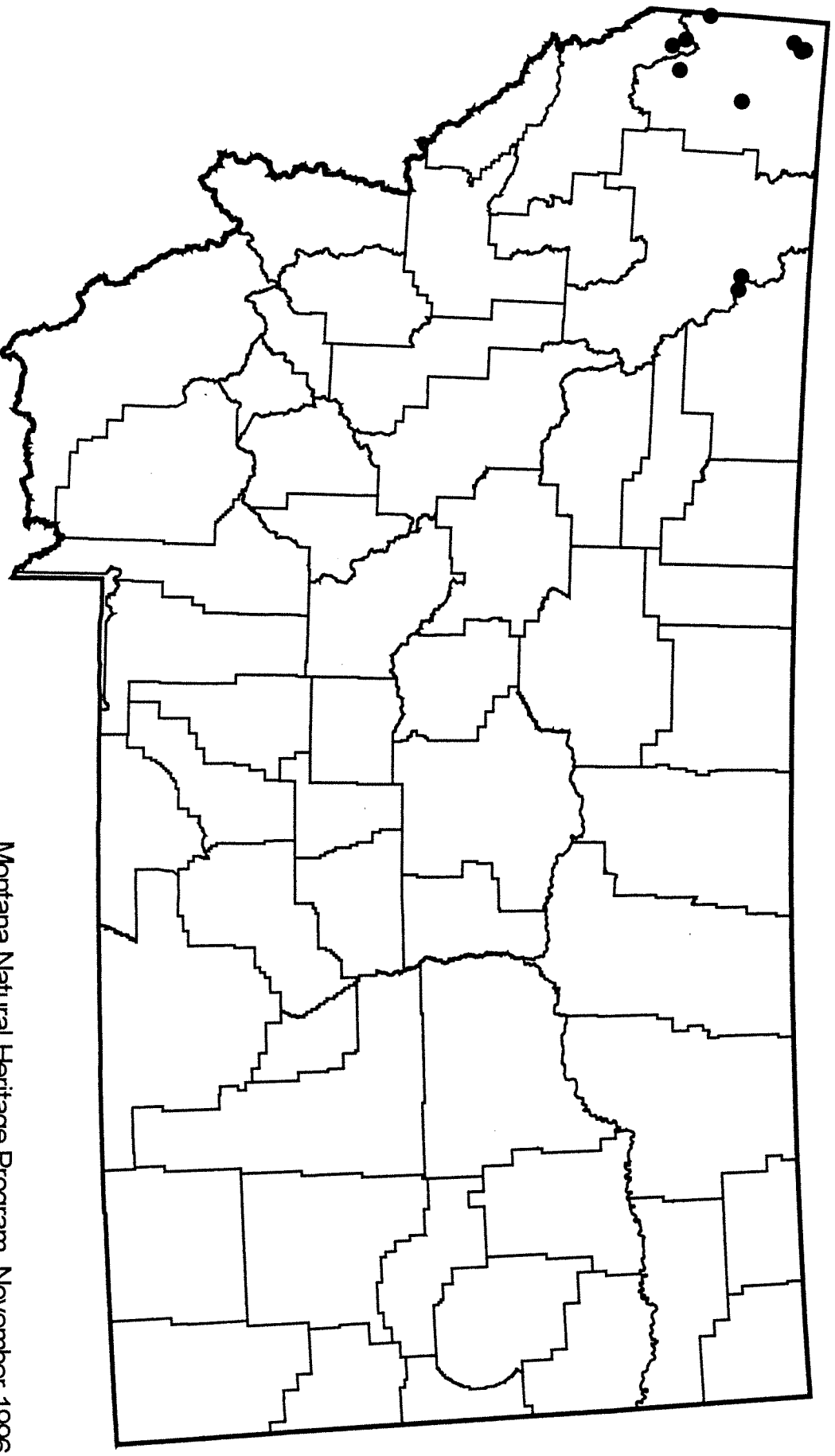
CORPORATE TIMBERLANDS
GLACIER NATIONAL PARK
KOOTENAI NATIONAL FOREST, CABINET RANGER DISTRICT
KOOTENAI NATIONAL FOREST, FISHER RIVER RANGER DISTRICT
KOOTENAI NATIONAL FOREST, LIBBY RANGER DISTRICT
KOOTENAI NATIONAL FOREST, THREE RIVERS RANGER DISTRICT

---REFERENCES---

McLaughlin, W. T. 1935. Notes on the flora of Glacier National Park, Montana. Rhodora 37:362-365.

Montana Distribution
of

Thelypteris phlegopteris (Northern Beechfern)



Montana Natural Heritage Program, November 1996

Thlaspi parviflorum A. Nels.
(Small-flowered Pennycress)

Family: BRASSICACEAE

Global rank: G3 USFS Region 1 status: SENSITIVE
State rank: S2 USFWS status:
 BLM status: DROPPED

Description: Small-flowered pennycress is a glabrous perennial with 1 to many simple or branched stems, 3-25 cm tall, from basal rosettes arising from a simple or branched rootcrown. The basal leaves are narrowly spoon-shaped and 1-4 cm long, with entire or few-toothed margins and a petiole 1/2 to twice as long as the blade; the few to several clasping stem leaves are lance-shaped to narrowly elliptic and 5-35 mm long. The flowers are borne on spreading pedicels, 4-10 mm long, in a narrow inflorescence that is congested at first but elongates with age; the four sepals are 1-2 mm long, and the four separate, white petals are 2-4 mm long. The fruit is teardrop-shaped, 4-10 mm long, keeled on the margins, and very shallowly lobed at the top with the style protruding less than 1 mm from between the lobes. Flowering in late June and early July, fruiting in August.

This species can be distinguished from the similar and more common *T. FENDLERI* by the smaller flowers and shorter style.

Global range: Central ID, nw. WY, and sw. MT. Regional endemic.

State range: Absaroka-Beartooth Mtns., Gravelly Range, Highland Mtns. and Snowcrest Range.

Montana counties: Beaverhead, Carbon, Madison, Park, Silver Bow

Habitat: Moist grasslands and meadows, usually in areas of calcareous parent material, in the montane to alpine zone. Elev. 6900-10100 ft.

Land Ownership Summary:

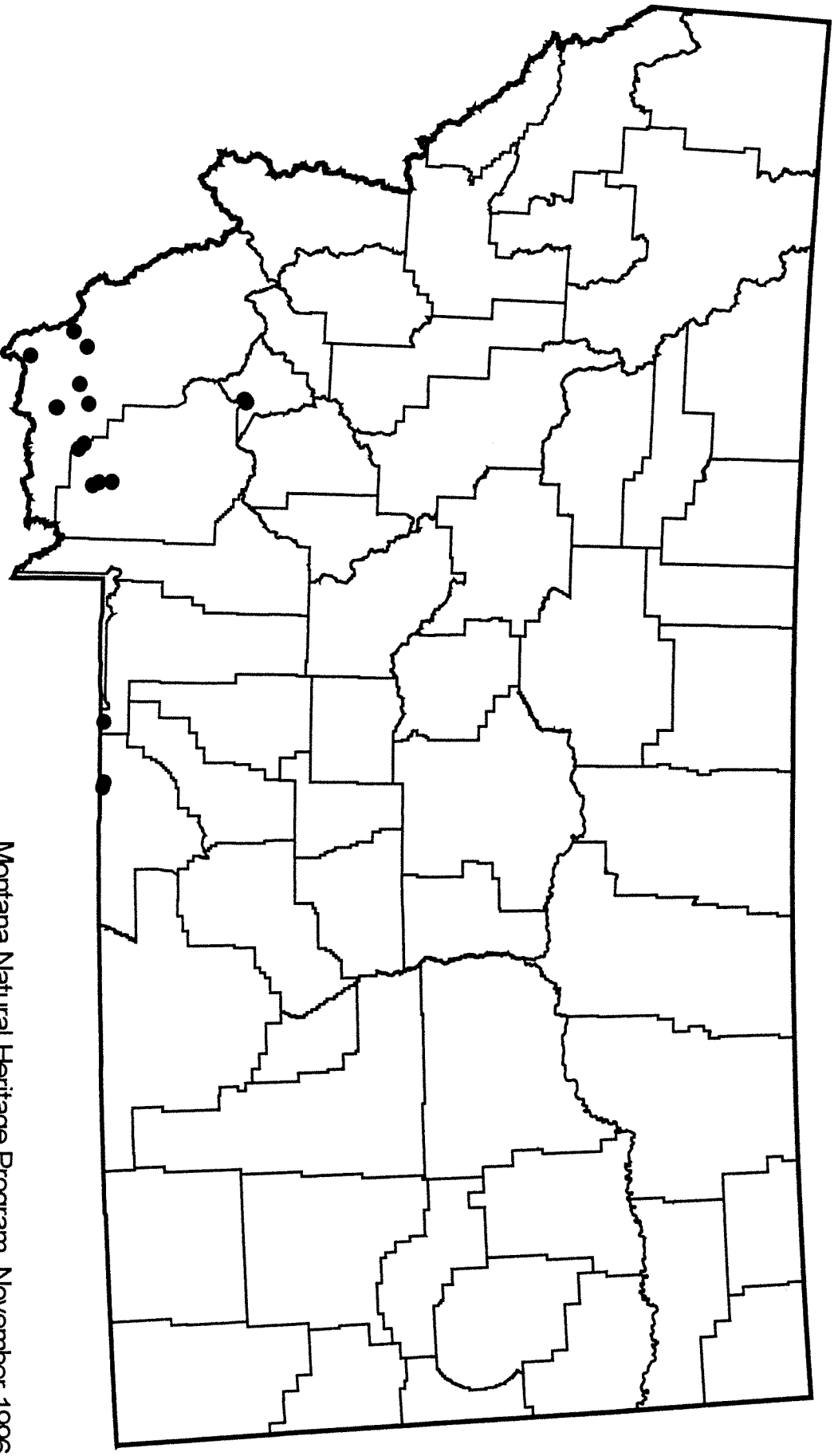
ABSAROKA-BEARTOOTH WILDERNESS
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, BUTTE RANGER DISTRICT
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, MADISON RANGER DISTRICT
BLM: BUTTE DISTRICT, DILLON RESOURCE AREA
CUSTER NATIONAL FOREST, BEARTOOTH RANGER DISTRICT
GALLATIN NATIONAL FOREST, GARDINER RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
STATE LAND - UNDESIGNATED

---REFERENCES---

- Lesica, P. 1992. Vascular plant and sensitive plant species inventory for the Highland Mountains, Deerlodge National Forest. Unpublished report. Montana Natural Heritage Program, Helena, MT. 21 pp. plus appendices, photographs.
- Lesica, P. 1993. Vegetation and flora of the Line Creek Plateau area, Carbon County, Montana. Unpublished report to USDA Forest Service, Intermountain Research Station. Montana Natural Heritage Program, Helena. 30 pp.
- Vanderhorst, J. P. and P. Lesica. 1994. Sensitive plant survey in the Tendoy Mountains, Beaverhead County, Montana. Unpublished report to the Bureau of Land Management, Butte District. Montana Natural Heritage Program, Helena. 59 pp. plus appendices.

Montana Distribution
of

Thlaspi parviflorum (Small-flowered Pennycress)



Montana Natural Heritage Program, November 1996

Trifolium eriocephalum var *piperi* (Piper) J. Gillett
(Woolly-head Clover)

Family: FABACEAE

Global rank: G4T3 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status:

Description: Woolly-head clover is a perennial with erect stems 20-60 c, tall from a thick taproot and a branched rootcrown. The leaves have three leaflets, 2-7 cm long, that are elliptic to oblong with sharply toothed margins; the base of each leaf petiole is enlarged to form two lance-shaped wings (stipules) 2-5 cm long; the foliage is sparsely to densely long-hairy. 25-80 flowers are borne in globose clusters at the ends of the main stem or side branches; the pinkish to red flowers are nodding and 12-17 mm long, with a hood-shaped upper petal (banner), two narrow, separate petals on the side (wings), and the two lower ones united into a boat-shaped petal (keel). The calyx has five long teeth at the mouth and is covered with long, feather-like hairs. The fruit is a small pod with 4 ovules. Flowering in May and June.

There are many clovers in Montana, and a technical key should be consulted for positive identification. This species can be distinguished from other perennial species of *TRIFOLIUM* occurring at lower elevations by the combination of erect, leafy habit, lack of a leafy involucre below the inflorescence, and long feathery hairs on the calyx teeth.

Global range: WA to CA, east to w. MT, ID, UT, and NV. Peripheral.

State range: Bitterroot River drainage.

Montana counties: Ravalli

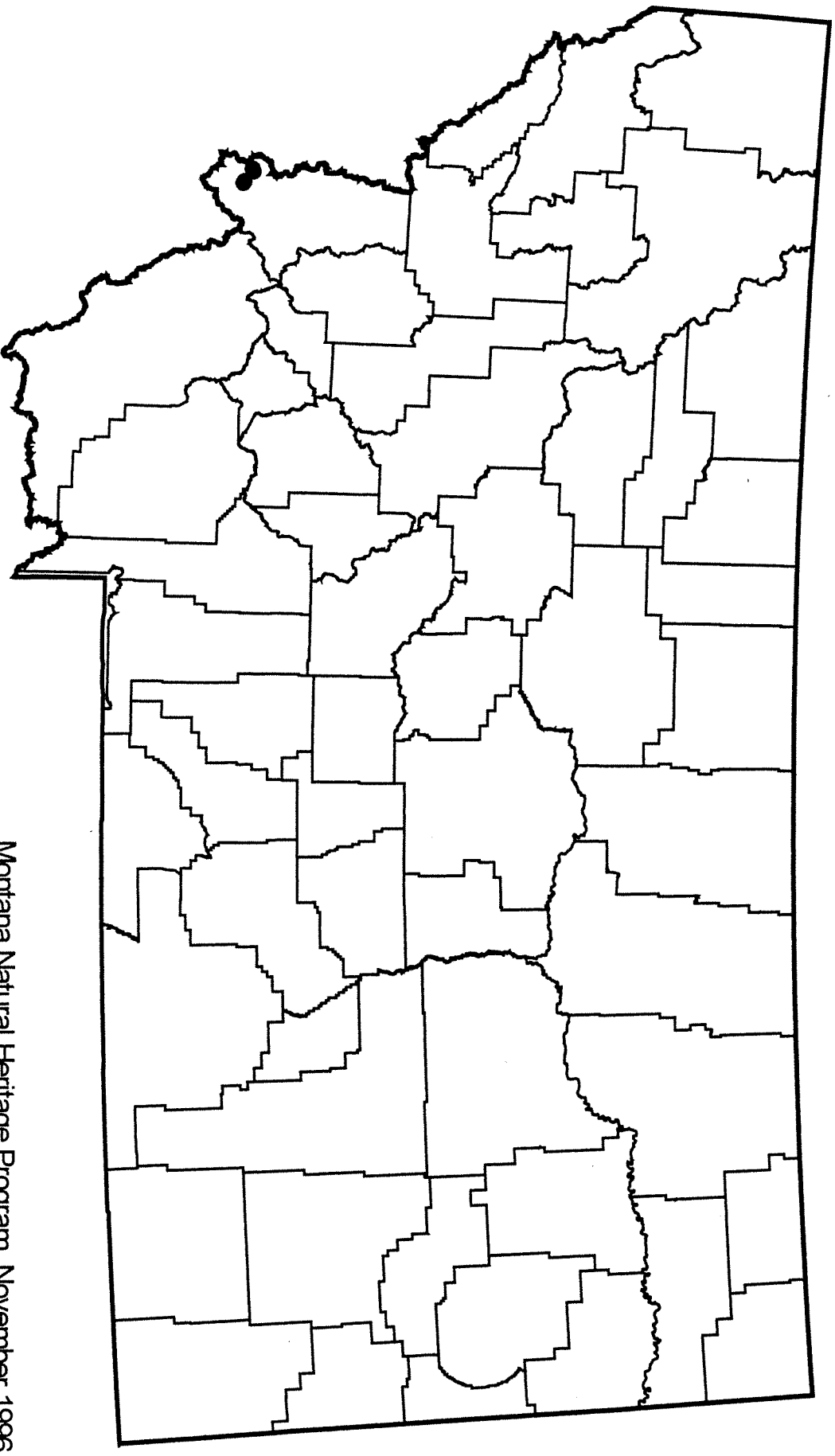
Habitat: Drier meadows and woods in the valley and lower montane zone. Elev. 4800-5130 ft.

Land Ownership Summary:
BITTERROOT NATIONAL FOREST, WEST FORK RANGER DISTRICT

---REFERENCES---

Montana Distribution
of

Trifolium eriocephalum v. *pipen* (Woolly-head Clover)



Montana Natural Heritage Program, November 1996

Trifolium gymnocarpon Nutt.
(Hollyleaf Clover)

Family: FABACEAE

Global rank: G4 USFS Region 1 status: SENSITIVE
State rank: S2 USFWS status:
 BLM status:

Description: Hollyleaf clover forms clumps with many stems, ca. 15 cm high, from a branched rootcrown and stout taproot. The leaves arise from the base of the stems and have membranous appendages 5-15 mm long at the base that remain as shreds on the rootcrown; each leaf has three ovate leaflets, 5-20 mm long, with sharply toothed margins; the herbage is sparsely covered with straight, appressed hairs. Three to 15 spreading to nodding flowers are borne in loose clusters at the ends of peduncles that are usually shorter than the leaves; the light yellow to flesh-colored flowers are 8-14 mm long, with a hood-shaped upper petal (banner), two narrow, separate petals on the side (wings), and the two lower ones united into a boat-shaped petal (keel); the densely long-hairy calyx is 1/3 to 1/2 as long as the corolla and is tubular at the base, but forms 5 long, triangular teeth at the mouth. The small fruit pod usually has a single seed. Flowering from May to July.

This is our only tufted clover without leafy stems that occurs below the subalpine zone.

Global range: Ne. OR to ne. CA and n. AZ, e. to MT and NM. Peripheral.

State range: Bitterroot Mtns.

Montana counties: Granite, Ravalli

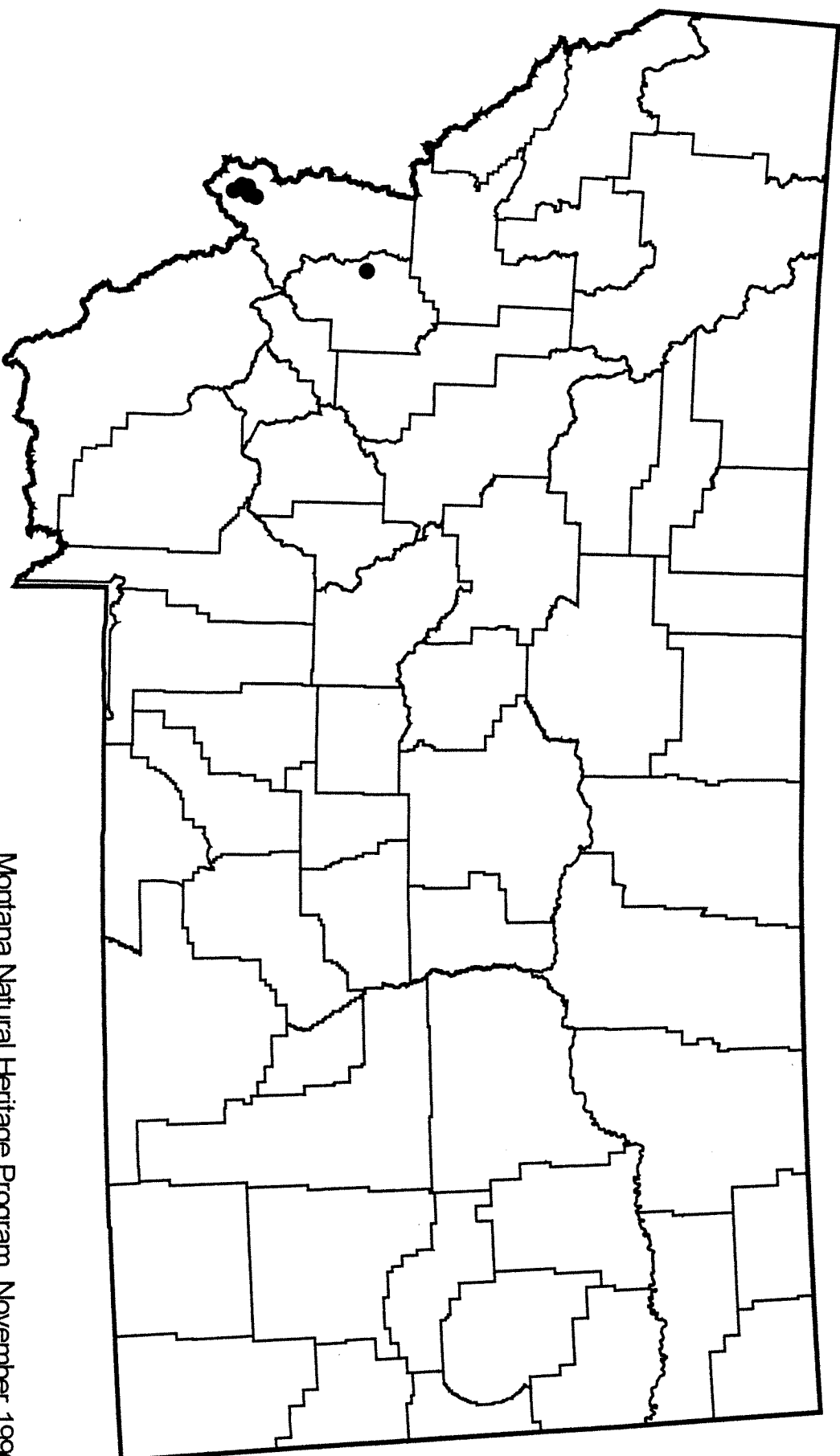
Habitat: Open woods and slopes, usually in dry soil of sagebrush desert to ponderosa pine forest. Elev. 4800-6300 ft.

Land Ownership Summary:
BITTERROOT NATIONAL FOREST, WEST FORK RANGER DISTRICT
LOLO NATIONAL FOREST, MISSOULA RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
STATE LAND - UNDESIGNATED

---REFERENCES---

Montana Distribution
of

Trifolium gymnocarpon (Hollyleaf Clover)



Montana Natural Heritage Program, November 1996

Veratrum californicum Dur.
(California False-hellebore)

Family: LILIACEAE

Global rank: G5 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status: WATCH

Description: California false hellebore is a robust, herbaceous perennial with solitary, unbranched stems, 1-2 m (3-7 ft) high, from thick rhizomes. The numerous, alternate, broadly elliptic, sessile leaves, 2-3 dm (8-12 in) long, have entire margins and parallel veins and sheath the stem at the base. Foliage is glabrous below, the stem becoming densely short-hairy above. The nearly sessile flowers are crowded in a narrow, erectly branched inflorescence, 3-6 dm (1-2 ft) long. Each flower has 6 white, petal-like, narrowly elliptic tepals, 10-15 mm long, with green markings at the base. There are 6 stamens, less than 1/2 as long as the tepals, and a glabrous ovary that matures into an egg-shaped capsule, 2-3 cm (ca. 1 in) long. Flowering in July and August.

The more common and widespread V. VIRIDE has greenish flowers, with petals 6-10 mm long, arranged on drooping branches of an open inflorescence.

Global range: WA to CA, east to MT, CO and Mex. Peripheral.

State range: Anaconda Range.

Montana counties: Granite

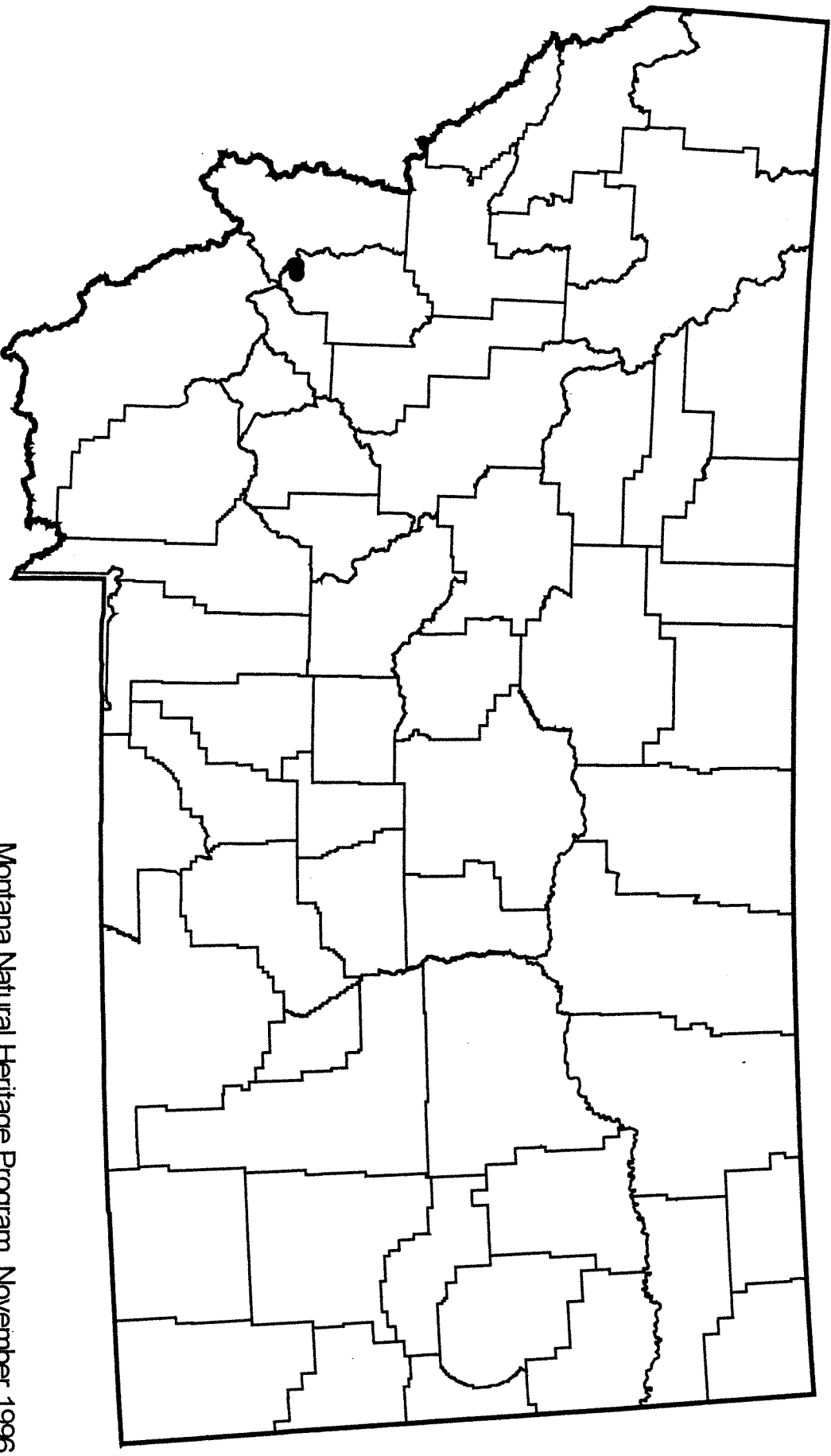
Habitat: Moist or wet meadows and forest openings in the montane and subalpine zones.
Elev. 6160-7360 ft.

Land Ownership Summary:
BEAVERHEAD-DEERLODGE NATIONAL FORESTS, PHILIPSBURG RANGER DISTRICT

---REFERENCES---

Montana Distribution
of

Veratrum californicum (California False-Hellebore)



Montana Natural Heritage Program, November 1996

Viola renifolia Gray
(Kidney-leaf White Violet)

Family: VIOLACEAE

Global rank:	G5	USFS Region 1 status:	SENSITIVE
State rank:	S2	USFWS status:	
		BLM status:	WATCH

Description: Kidney-leaved violet is without stems or rhizomes. The leaves and flower stalks arise from a short rootstock; the leaves have petioles 3-15 cm long and blades that are orbicular and broadly heart-shaped at the base, coarsely toothed, and 2-6 cm wide; the foliage is sparsely to heavily pubescent. The flower stalks are shorter than the leaves; flowers are white and 10-15 mm long; petals are glabrous within, and the lower three are lined with purple. Flowering in June, July, and fruiting in July and August.

VIOLA PALUSTRIS and V. MACLOSKEYI are white-flowered, stemless species that could occur in the same habitat, but both have stolons, while V. RENIFOLIA does not.

Global range: B.C. and WA to e. U.S., south in Rocky Mtns. to CO. Sparse.

State range: Flathead, Swan, Kootenai and Two Medicine river drainages; also, Bitterroot Range, Highland Mtns. and Continental Divide near Boulder.

Montana counties: Flathead, Glacier, Jefferson, Lake, Lincoln, Missoula, Silver Bow

Habitat: Swampy or boggy soil in forests in the montane zone. Elev. 2400-6520 ft.

Land Ownership Summary:

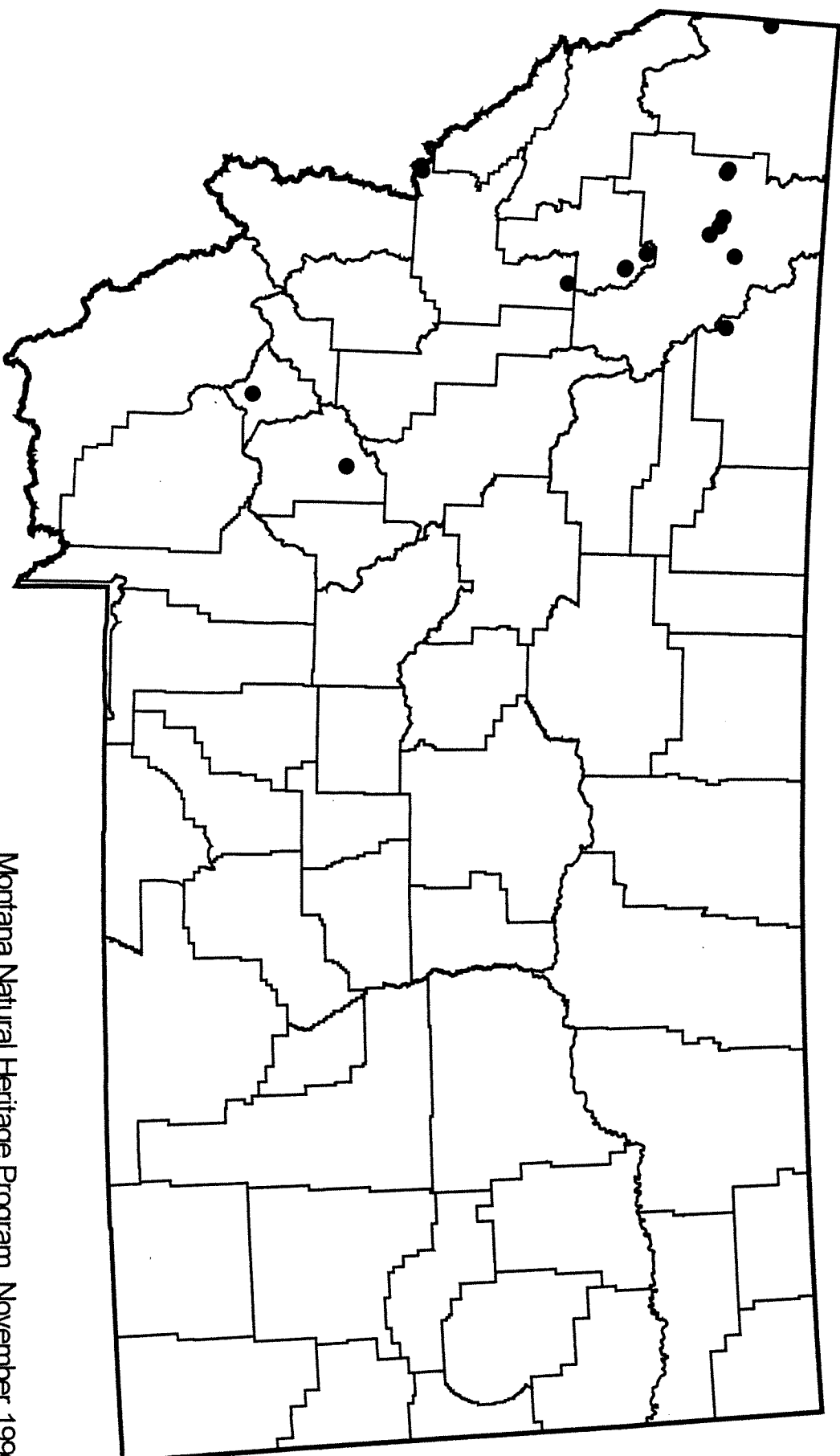
BLM: BUTTE DISTRICT, HEADWATERS RESOURCE AREA
CORPORATE TIMBERLANDS
FLATHEAD NATIONAL FOREST, SWAN LAKE RANGER DISTRICT
FLATHEAD NATIONAL FOREST, TALLY LAKE RANGER DISTRICT
GLACIER NATIONAL PARK
HUMBUG SPIRES PRIMITIVE AREA
KOOTENAI NATIONAL FOREST, THREE RIVERS RANGER DISTRICT
LOLO NATIONAL FOREST, MISSOULA RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
RICHARDS CONSERVATION EASEMENT
STATE LAND - UNDESIGNATED
SWAN RIVER OXBOW PRESERVE
WHITEFISH SPRUCE SWAMP CONSERVATION EASEMENT

---REFERENCES---

- Canne, J. M. 1987. Determinations of chromosome numbers in VIOLA (Violaceae). Canadian Journal of Botany 65(4):653-655.
- Nekola, J. C. 1990. Rare Iowa plant notes from the R. V. Drexler Herbarium. Journal Iowa Academy of Sciences 97:55-73.

Montana Distribution
of

Viola renifolia (Kidney-leaf White Violet)



Montana Natural Heritage Program, November 1996

Waldsteinia idahoensis Piper
(Idaho Barren Strawberry)

Family: ROSACEAE

Global rank: G3 USFS Region 1 status: SENSITIVE
State rank: S1 USFWS status:
 BLM status:

Description: Strongly rhizomatous, sparsely hirsute perennial herb. Leaves basal, the stipules membranous, adnate and forming a broad base to the slender, 5-12 cm petioles, the blades cordate-suborbicular, shallowly 3- to 5-lobed and coarsely toothed, 3-5 cm broad; peduncles with 1 or 2 ovate to lanceolate, simple to 3-lobed bracts near the 2- to 7-flowered, lanceolate-bracted, loose cymes, sparsely glandular-pubescent above. Hypanthium narrowly obconic, 2-3 mm long, the lobes spreading, triangular-lanceolate, ca. 4 mm long; petals cream or yellowish, suborbicular, 4-5 mm long. Stamens about 70, equalling the petals; pistils 2-4, the ovary and achene canescent, the style puberulent near the base. Flowering in June.

Global range: Central ID and adjacent MT. Regional endemic.

State range: Bitterroot Range.

Montana counties: Missoula

Habitat: Open ponderosa pine forest in the montane zone. Elev. 4200- ft.

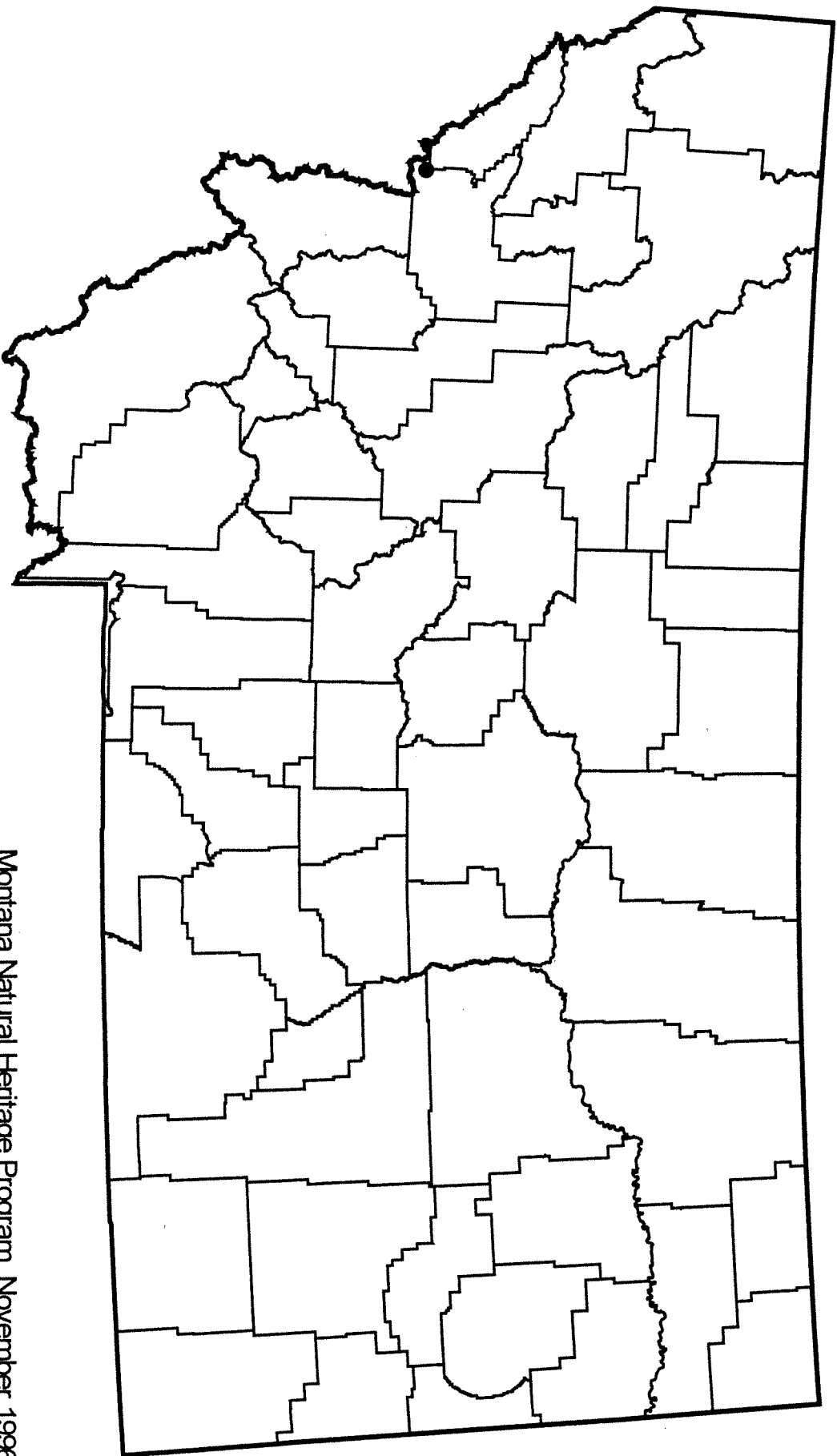
Land Ownership Summary:
CORPORATE TIMBERLANDS
LOLO NATIONAL FOREST, MISSOULA RANGER DISTRICT

---REFERENCES---

Lackschewitz, K., P. Lesica and J. S. Shelly. 1988. Noteworthy collections: Montana. Madrono 35:355-358.

Montana Distribution
of

Waldsteinia idahoensis (Idaho Barren Strawberry)



Montana Natural Heritage Program, November 1996